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JOINT ANALYSIS GROUP 25X1

24 August 1966

MEMORANDUM FOR THE DIRECTOR

A copy of the newly published JAG Study, "Alternative Projections of Chinese Communist Forces Through 1975," is forwarded for your information.

Copy No. 1 of the study together with your transmittal memorandum, was sent to the Secretary of Defense via Mr. ______ on this date. 25X1 At the same time we told Mr. _____ that the Joint Analysis Group would be pleased to brief the Secretary on the study if he so desired.

The general distribution of the study to intelligence and operational users will take place on 26 August when all copies have been received from the printer.

Chairman 25X1

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Attachment

DIA review(s) completed.

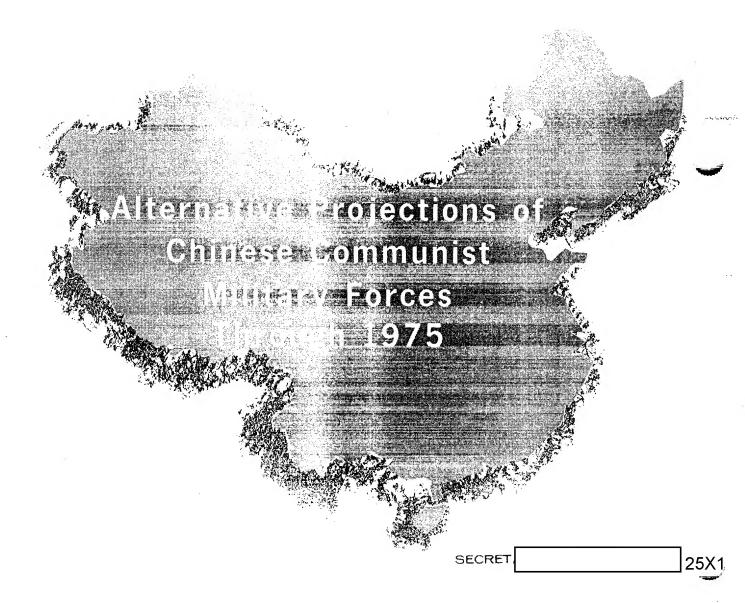
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CENTRAL INTELLIGENCE AGENCY

WASHINGTON, D. C. 20505

OFFICE OF THE DIRECTOR

15 August 1966

The Honorable Robert S. McNamara Secretary of Defense Washington, D. C.

Dear Mr. Secretary:

Attached is the first report relating to the potential threat of Communist China prepared by the CIA/DIA Joint Analysis Group. Four alternative Forces are projected, extending through 1975. These projections have been subjected to explicit economic and technological constraints in the course of their preparation.

This study is primarily intended to meet the need of military planners for projections of the types of military threats which the Chinese might pose over the next ten years or so. Substantial uncertainties exist as to the ultimate priorities and objectives that the Chinese have set regarding the many modern weapons programs they are now pursuing. For this reason, we have attempted to project Forces that would illustrate the principal approaches open to the Chinese. This study is not to be construed as an intelligence estimate of probable developments during the period.

This report has been reviewed by other members of the USIB and by the Board of National Estimates. While giving no formal approval, they do agree that the study provides a reasonable set of projections of Chinese Communist military forces.

General Carroll and I are pleased to forward this report by the Joint Analysis Group for use with other intelligence publications in long-term planning studies conducted in your office and by the military services.

> Richard Helms Director

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CENTRAL INTELLIGENCE AGENCY/DEFENSE INTELLIGENCE AGENCY

JOINT ANALYSIS GROUP

ALTERNATIVE PROJECTIONS

<u>of</u>

CHINESE COMMUNIST FORCES THROUGH 1975

ALTERNATIVE PROJECTIONS

OF

CHINESE COMMUNIST MILITARY FORCES THROUGH 1975

The Report in Brief

This study projects possible alternative courses in the evolution of the Chinese Communist military establishment through 1975, with the aim of providing the planner with specific illustrations of the potential character and magnitude of the military threat which China could pose during that period.

Four alternative Forces are developed, each reflecting an approach which the Chinese leaders might adopt in determining their military requirements and force goals. All the Forces are primarily concerned with enhancing China's ability to deter hostile powers from attacking China or interferring with Chinese-supported operations, rather than with precipitating full-scale war.

- :: Force A is a low-side force, designed to depict the most modest goals the Chinese leaders might reasonably be expected to set for themselves in light of the vigorous effort they have made to date to acquire modern weapons.
- :: Force B is a high-side force differing sharply from Force A in its basic outlook and depicts the maximum strategic attack capability the Chinese might be expected to achieve without neglecting other military requirements.
- :: Force C projects a vigorous modernization program comparable in economic magnitude to Force B but with main emphasis on improving China's defenses rather than on developing strategic offensive forces; a high side force.
- :: Force D, a high-side force, postulates a major effort to modernize China's general purpose forces, carried out in conjunction with continued work on development of strategic offensive and defensive forces.

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The study accepts the intelligence judgment that the basic goals of the Chinese leadership will remain generally unchanged and projects it through the next decade even though the departure of Mao may bring modifications in emphasis and tactical approach. In addition, the study proceeds on the basis of certain assumptions, two of them being that Sino-Soviet relations during this decade would remain strained, and that the Chinese would not obtain significant amounts of assistance from either the Soviet Bloc or the West.

There are a wide variety of possible developments over the next ten years or so which might significantly affect Chinese military planning, developments which would occur both inside China and in China's relations with the rest of the world. Appendix A discusses several major contingent developments, both favorable and unfavorable to the Chinese, and the possible effect of these contingencies on the projected Forces.

The present Chinese leadership has clearly been willing and able to deprive the civilian economy of substantial resources in order to maintain the ambitious array of military programs it is now trying to carry forward. However, there are important limits as to how far the regime can go in this direction on a sustained basis. A central problem in formulating the projected Forces has been that of developing and applying realistic economic and cost constraints. Appendix B sets forth the methodology of the economic and cost analysis used in this study and itemizes the projected costs of the individual Forces.

ALTERNATIVE PROJECTIONS

OF

CHINESE COMMUNIST MILITARY FORCES THROUGH 1975

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ALTERNATIVE PROJECTIONS OF CHINESE COMMUNIST MILITARY FORCES THROUGH 1975

I. SCOPE AND APPROACH

General

This study represents an exploratory effort at projecting how the Chinese Communist military establishment might evolve through 1975, with the aim of providing the planner with specific illustrations of the potential character and magnitude of the military threat which Communist China might be able to pose for the US and other possible antagonists during that period.

The study essentially consists of four alternative force projections, each reflecting a different approach which the Chinese leaders, for one reason or another, might adopt in determining military requirements and force goals. One projection is designed to portray the most modest force goals the Chinese might reasonably be expected to set for themselves in the light of their vigorous force development effort to date. The others indicate how far they might reasonably be expected to go in developing a particulariset of capabilities (strategic attack in one case, air and naval defense in another, theater forces in a third) without neglecting other essential military requirements. Each of the forces includes all of the major elements which make up a military establishment, projected in accordance with the over-all planning concept used for that force.

In developing these projections, we have taken as a point of departure the best available intelligence and intelligence judgments regarding the progress of the Chinese Communist military effort to date and its prospects for the future. Economic and technological constraints have played a major role in determining both the composition and magnitude of the various programs herein projected. In applying these constraints to the development of the high-side forces, we have attempted to resolve uncertainties concerning capabilities in favor of the Chinese. From a technological point of view, we have done so by introducing at the earliest dates deemed possible, systems being emphasized in a particular force alternative and by including a substantial number of new systems on a concurrent or overlapping basis. In the economic sphere we have done so by postulating rates of growth, hence availability of resources for military programs, that we believe to be optimistic. Moreover, we have assumed that with these rates, it would be possible for the Chinese to have enough technological and industrial resources both to carry out present programs and to develop the additional resources that future programs would require. (See the Assumptions beginning p. 7, below, and Appendix B, p. B-1).

The projections contained in this paper are not intelligence estimates. Rather, these projections are designed to illustrate the range of options which appear to be open to the Chinese leaders and not to indicate a most likely course of action and possible variations. No one of

the four courses herein projected is likely to be adopted in its entirety and no one of them can be singled out as the most probable. Taken together, however, they do indicate reasonable and practical limits on what might be expected of the Chinese over the next ten years or so.

For the most part, the forces postulated are not projected past 1975. However, the study does include likely post-1975 IOC's of major weapon systems projected as under development in the late 1960's and early 1970's. It also takes account of likely force goals beyond 1975 as they might affect procurement and deployment up to that point. The use of 1975 as a convenient cut off point is not meant to imply that this date would have any special significance for the Chinese.

Alternative Force Planning Concepts.

In preparing this study we have followed the generally accepted intelligence judgment that the basic goals of the Chinese leadership will remain generally unchanged, even though the probable departure of Mao and other old-timers may bring changes in emphasis and tactical approach, as suggested in the alternative projections we have developed. We assume that the Chinese military establishment will continue to play a key role in maintenance of internal security and that Chinese military policy will also continue to be directed toward supporting the major external goals of: (a) defending the Chinese homeland; (b) gaining control over Taiwan and other lost territories; (c) neutralizing and eventually expelling US and other "imperialist" forces from the Far East; (d) restoring China's

historic preeminence in Asia and its standing as a world power; (e) winning acceptance of Chinese leadership and doctrine in the Communist movement; and (f) leading the struggle for national liberation throughout the underdeveloped world.

Within this general setting, the study allows for four different approaches which the Chinese Communist leadership might adopt in establishing its long-term military force requirements. All of these envisage a prolonged period of continuing tension, probably extending far past 1975, in which Communist China might become militarily embroiled not only with the US and the Chinese Nationalists but with other nations including the USSR. All approaches are primarily concerned with enhancing China's ability to operate effectively and securely at the lower end of the military spectrum, —that is, with deterring hostile powers from attacking China or interfering with Chinese-supported operations, rather than with precipitating or inviting full-scale war. Hence, they differ mainly in their approach to the problem of deterrence.

Alternative Force A is a low-side force designed to depict the most modest goals the Chinese leaders might reasonably be expected to set for themselves in the light of the vigorous effort they have made to date to provide themselves with modern weapons. It assumes a decision to hold spending for development and production of military hardware at approximately present absolute levels, reflecting a belief that there is no over-riding need for a more rapid buildup and reinforced perhaps by concern over the need to build up the civilian economy. This approach probably would

continue to stress such concepts as the superiority of properly trained and motivated men over mere technology on the battlefield and would value modern (and especially nuclear) weapons primarily for their psychological value in reinforcing China's claims to great power status rather than for their specific military potential.

Alternative Force B depicts the maximum strategic attack capability the Chinese might reasonably be expected to achieve without neglecting other military requirements and is a high-side force which differs sharply from Force A in its basic outlook. It assumes the emergence of a more professional and systematic approach to military problems, and reflects a judgment by China's leaders that they cannot be assured that their modern weapons will be effective in restraining the US and overawing China's neighbors unless these weapons provide a substantial and reasonably credible retaliatory capability.

Alternative Force C projects a vigorous modernization program comparable in economic magnitude to Force B but with main emphasis on improving China's defenses rather than on developing strategic offensive forces. Force C thus depicts the maximum air and naval defense effort the Chinese might reasonably be expected to carry out in the light of competing military requirements. Like Force B, Force C is primarily directed at deterring US attack on China and at impressing China's neighbors with its ability to defend itself.

Alternative Force D postulates a major effort to modernize China's general purpose forces, carried out in conjunction with continued work on

development of strategic offensive and defensive systems. Although a high-side force, it would represent a less drastic shift from the Force A outlook than postulated in Forces B and C, reflecting a continuation of the present emphasis on the ground forces as the mainstay of the military establishment. This is a direction the Chinese military planners might take should they become convinced that the acquisition of nuclear weapons would provide China with greater opportunity to threaten or actually undertake aggressive military operations in peripheral areas. Conversely, such a buildup might be stimulated by continuing or enhanced concerns over the possibility that China might be compelled to intervene, say, in Vietnam.

Assumptions

In developing these alternative forces, it has been necessary to take account of a wide range of uncertainty about the specific conditions and situations which might confront Communist China over the next decade. In general, we have envisaged the alternative force projections as long-term programs designed to take account of a variety of possible developments rather than as lists of requirements tailored to meet particular sets of contingencies. The projections do not, for example, make specific provision for such possible developments as Indian development of nuclear weapons or a sharp decline in the GRC's internal position. However, we have found it necessary to make some specific assumptions about the Chinese economy and about certain other circumstances likely to confront the Chinese leadership and have also noted in Appendix A how certain developments, such as a severe worsening of Sino-Soviet relations, might affect Chinese force developments. These specific assumptions are listed below:

Assumption 1. The Chinese will have a considerable degree of success in coping with their economic and technological problems over the next ten years or so.

This is an optimistic assumption but one which appears to provide the most practical approach for two reasons. The first is that these projections are primarily aimed at indicating how much of a military threat, rather than how little, the Chinese might be able to develop and sustain during the next ten years. The second is that, while we certainly cannot exclude the possibility of one or more bad crop years or another managerial aberration like the "Great Leap Foward," the likelihood and extent of such setbacks and their quantitative impact on military programs are essentially unpredictable. The specific economic implications of this assumption are discussed in Appendix B.

Assumption 2. Although development and production of military hardware will continue to be heavily favored in the allocation of scarce technological and industrial resources, the Chinese leaders will not be able to provide the military — on a sustained basis — with any significantly larger share of these resources than it is now getting.

This assumption serves to provide some objective basis for assessing economic constraints. It represents an economic judgment (discussed, along with other points made here, in Appendix B) that any significant increase in the already substantial proportion of scarce industrial and technological resources now devoted to military purposes would severely cramp the growth of the economy, which in turn would severely cramp future growth of military program. We have considered spending for military hardware in relation to outlays in a specific sector of the economy, i.e.,

heavy industry sector, and not in relation to total GNP. This is not only because of the great uncertainty about the actual size of Chinese GNP but because GNP, in a vast, predominantly peasant economy like China's does not adequately reflect the burden on that sector of the economy which is most responsive to the impact of military programs. For related reasons, we have not sought to calculate the cost of food, clothing, and pay for the armed forces, which are assumed to remain at approximately the present level in all forces.

There is no implication in this assumption or in the study that the Chicoms are following an orderly detailed fiscal and developmental plan. We do not know. The limitation on resources exists, however, whether the Chinese are rational or irrational in their planning. It is conceivable that they could go to a crash program of intensive production of weapon systems. At the end of some period however they would pay a severe penalty for having overworked facilities, and for having ignored the needs for capital reinvestment.

Assumption 3. The Chinese will not obtain significant amounts of military equipment or technical advice from either the USSR and its European partners or from other countries.

This is a necessary assumption if we are to assess China's own capacity to develop its military capabilities. It allows for some continuing shipments of spare parts, etc. We cannot exclude the possibility that the Soviets may provide China with some interceptors or other defensive

equipment, as they did in 1962 and possibly later, but have excluded it from the projections. However, the possibility of significant aid -- with particular reference to the circumstances under which it might become available, the types of aid which might be extended, and China's ability to absorb it -- is discussed in Appendix A.

Assumption 4. Although Sino-Soviet relations will remain strained, they will not deteriorate sufficiently to generate major new requirements for defense against the USSR.

In other words, no specific provision is made in the alternative forces for possible requirements for increased capabilities vis-s-vis the USSR. This provides the only reasonably firm basis for projecting force requirements as matters now stand. Possible effects of a worsening of Sino-Soviet relations on Chinese force planning, as well as the possibility of increased Soviet aid are, however, considered in Appendix A.

Assumption 5. Regardless of how the Far Eastern situation may otherwise develop, a substantial and possibly increased US military presence in the Far East will continue and related US-Chinese strains will persist, but not to the point of direct hostilities.

In other words, it will continue necessary for Chinese military planners to take account of the possibility of US opposition to military operations they might consider and of US or US-supported attacks of one kind or another on China proper. The no-war proviso is not intended to rule out the possibility of such a development but merely to reflect the fact that the out-

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break of war would mean, at a minimum, the end of any orderly military force development program for China. Appendix A notes the possible impact on China's ability to carry out military development programs of heavy but indirect Chinese involvement in a long-drawn-out conflict in Vietnam.

II. THE ALTERNATIVE PROJECTIONS

ALTERNATIVE FORCE A

Force Concept and its Implications

Alternative Force A is a baseline force, representing the most modest military goals the Chinese leaders could reasonably be expected to set for themselves in the light of the heavy commitments they have already made to development of nuclear and other modern weapons and their normal requirements over the next ten years for elimination of outstanding deficiencies and replacement of obsolescent equipment within the existing force structure. In developing this force we have assumed that spending for development and procurement of military hardware would continue at approximately present absolute levels and that China would continue to maintain approximately the present number of men under arms.

A very considerable though declining proportion of China's critical industrial and technological resources would still be going to the military on this basis. However, the leveling off of expenditures for procurement of military hardware at a time when various weapon systems programs were approaching the costly production stage would make it difficult to pursue all production programs simultaneously and would sooner or later impose sharp limitations on what the regime could procure. A decision to level off such military procurement expenditures would thus involve some slowup in the over-all pace of the military program as it has de-

veloped so far. The Chinese certainly could not settle for any lower level of effort without, in effect, confessing that they had overreached themselves, and though they might be forced by circumstance to do so would presumably not do so voluntarily. Indeed, even a leveling off of military procurement expenditures would involve some unpleasant decisions.

In general, Force A calls for continuation of work on all three major types of strategic delivery systems now apparently under development (i.e., the MREM, the submarine-launched missile, and the medium bomber) but with actual production and deployment relatively limited. China's airdefenses would be improved somewhat with the introduction of native-produced interceptors and improved detection and communication equipment but would still have but few SAM's. Similarly, China's coastal and naval defenses would remain weak despite an active naval building program aimed at phased replacement of older ships. The ground forces would continue to be the backbone of the Chinese military posture and because of the magnitude of their requirements for new or standardized weapons, even at a relatively modest level of sophistication, would remain a major claimant to Chinese military resources.

For the most part, Force A does not call for construction of major new production or test facilities before 1975, the principal exception being the new rangehead (and instrumentation ships) required for development of an ICBM. However, it does call for completion of

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Adoption of force goals at or close to the Force A level would be quite consistent with the regime's continuing heavy emphasis on the superiority of properly motivated men over mere technology on the battlefield and its efforts to discourage professional as against essentially political loyalties and modes of thought within the officer corps. Force goals of this sort might also be favored out of concern over the need to build up China's civilian economy, perhaps coupled with a belief that China's military establishment itself would be better off in the long run if extensive production of expensive military hardware were foregone at this stage, thereby making funds available for building up China's industrial infrastructure (or for military RDT&E beyond that actually projected in Force A).

Even under this approach the Chinese would presumably be well aware of the value of nuclear weapons as a potential retaliatory threat against the US and other possible enemies and would envisage the eventual achievement of an arsenal of modern weapons of considerably more than token numbers. But it is assumed that they would feel under no great pressure to speed up the military buildup and, though mindful of the possibility of all-out war with the US, would remain reasonably confident that the US already had strong inhibitions against undertaking an all-out attack on them. In this view, the modern weapons program would initially have the

primary aim of demonstrating China's progressive achievement of all the attributes of great power status and its ability to gain them despite the cutting off of Soviet aid.

Strategic Offensive Forces

We assume that the Chinese would seek to develop an SS-4-type MREM with a range of 1000 nm which could be used to threaten US bases and population centers in Okinawa, Taiwan, Japan, South Korea, and South Vietnam. The MREM would also provide valuable experience which could be used in development of an ICEM. However, requirements for deployed missiles would remain relatively modest. Assuming that the Chinese can achieve an IOC by 1970, we project production averaging 15 missiles per year through 1974, using existing RDT&E facilities, for a total production of 105 missiles and a deployed total of 35 missiles in 1975. We assume that they would be deployed in soft sites.

We envisage, for this Force, only the one G-class submarine now in existence. A compatible missile for it is projected as becoming available in 1969, using the same missile test and production facilities used for the MRHM. No production line would be set up; the very small requirement would be met from the RDT&E program. This submarine would give the Chinese navy a token strategic attack capability and, primarily, the means for learning more about missile submarines. However, no more of this class would be built, with attention instead focussed on development of a more advanced hull design (see General Purpose Forces, p. 19).

and on RDT&E for a nuclear-propelled submarine which, despite its even greater expense, would have unique advantages. Under this projection, a nuclear-powered submarine would not be completed earlier than 1980.

We assume that the Chinese would wish to produce at least a limited number of BADGER-type medium jet bombers, in part as a hedge against slippage in the missile programs, in part as a means of diversifying China's attack capabilities, and in part for the purpose of gaining experience in large military aircraft design and construction. It is considered most unlikely that the Chinese would seek to produce the generally unsatisfactory transport version of the BADGER, with better and far cheaper cargo planes available both from the USSR Nand in Western Europe. On the assumption that production could begin in 1967, with the first plane rolled out in 1969, we project a total of 46 BADGERS produced and 36 deployed by 1974. This number, equivalent to one Soviet regiment, represents considerably less than optimum utilization of the plant -- 100 would be a more reasonable "minimum buy" in Western cost accounting terms -- but such a cutback in procurement goals would be virtually unavoidable if the Chinese were to adopt the Force A concept of holding military development and procurement expenditures at approximately present levels. We postulate that after completion of the BADGER run the plant involved would be converted to production of a nativedesign transport of the AN-12 (CUB)-type. First roll-out is projected for 1976.

While the Chinese leaders might decide to forego development of an ICBM, especially in the face of US (and Soviet) ABM deployment, we assume here that the prestige and deterrent potential of an ICBM would make it attractive even in the Force A context. However, research and development on an ICBM would be carried out at a moderate pace, with construction of new rangehead facilities commencing in 1973, a pilot model appearing in 1976, and IOC being achieved in the latter 1970's. An IRBM would not be deployed under the Force A concept although China would acquire the capability to assemble such a missile from components required for the ICBM and might actually test an IRBM configuration.

Strategic Defensive Forces

The chief improvement in strategic defense forces would be the introduction of increasing numbers of interceptors. Production of MIG-19's has apparently already begun at Shenyang and in this projection is estimated to continue through 1970, for a total production run of about 900 aircraft. We have assumed that the aircraft turned out at the Cheng-Tu plant will be the MIG-21 and that production will begin in 1967. The decision to go ahead concurrently with the less effective MIG-19 as well reflects some technical difficulties with the MIG-21 and the regime's unwillingness to wait for these difficulties to be resolved. In Force A production of MIG-21's is

projected as continuing through 1975, for a total production of about 600.

Air-to-air missiles are projected for both the MIG-19 and the MIG-21. It is assumed that the obsolescent MIG-15 and MIG-17 would be retained as long as possible, then placed in reserve for emergency use in either the interceptor or ground support role.

Under this force concept we envisage continuation of China's estimated modest capability to maintain necessary stocks of SA-2-type missiles, to take account of the retirement of no longer serviceable missiles as well as actual firings. We also project continuation of the SAM RDT&E program. Under the Force A concept, however, we assume that cost considerations, together with range and other limitations of the SA-2 missile system, would militate against significant production and deployment of weapons of this type.

Over the course of the ten-year period, we would expect a considerable improvement in the air defense infrastructure of airfields, radars, and communications. We also project a modest increase in the number of AAA batteries.

General Purpose Forces

This alternative projects a continuation of the army at approximately present strength, with present TO&E's remaining for the most part unchanged and only minor changes taking place in the order of battle -- notably to provide a modest buildup of AAA, combat engineer, signal and motor transport units at the army and higher levels.

The principal ground force planning goal under this concept would be the standardization of weapons and equipment, so as to eliminate the many obsolescent and heterogenous items in the inventory and to provide all regular units with their full TO&E requirements in standardized items of currently accepted Soviet or Chinese design. A related goal would be the building up of adequate ammunition reserves. We also project much greater numbers of ground force radios, especially below regimental level, the provision of MI-4 helicopters to each of the 34 armies for command and control, and a modest start toward setting up some units equipped with pontoons and other special equipment for crossing water obstacles.

The hardware requirements of a standardization and reequipping program would vary. The army is probably well on its way to achieving such standardization with respect to artillery. For our calculations we assume that the army's entire present stock of wheeled vehicles will require replacement by the end of 1975, for an annual requirement of some 10,000 new vehicles or about half of China's present truck output.

With respect to tanks, we assume that the Chinese would wish to standardize on the T-54, with all of the T-34's in the inventory replaced by 1974 at a retirement rate of about 300 a year. This would involve annual production of 400-500. We also project development (primarily for reconnaissance) of a light amphibious tank comparable to the Soviet PT-76 with an IOC of 1973, introduction of a follow-on medium tank which would begin entering the inventory in 1975, and development of a heavy assault gun to replace the obsolescent JS-2's and assault guns now in the inventory.

On this basis the army would have more than made up the deficiencies which plagued it during the arly 1960's. By Western standards, however, it would still be relatively weak in motor transport and in specialized equipment such as dozers, mine-layers, amphibious vehicles, etc. It is assumed, moreover, under the present force concept, that some 75 of China's line divisions would continue to live largely on the land and would have only about half their time available for training. This would leave only 42 line divisions able to spend virtually full time on training.

On the naval side, we project an increased level of shipbuilding activity after 1970, primarily for the purpose of replacing obsolescent ships now in service but also with the hope of effecting some improvement in coastal patrol and other defensive capabilities and of paving the way for future improvements in the submarine force.

Much of the construction would go for replacement of various types of small craft, at a rate of about 5 percent a year. The projection also calls for ten more submarines of the R-class, the improved version of the W-class, in addition to the two now complete, in part to replace seven smaller and increasingly obsolescent submarines now in the inventory. Construction of the SS-CX-1, a new torpedo-attack submarine with diesel propulsion and more efficient hull design, would begin in the early 1970's. A hull of this design, embodying the lessons learned in production and operation of the SS-CX-1, would be used in the nuclear-propelled submarine projected for 1980.

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TABLE 1. FORCE A

STRATEGIC OFFENSIVE FORCES

	1965	1966	<u> 1967</u>	1968	1969	1970	1971	1972	<u> 1973</u>	<u> 1974</u>	1975
BALLISTIC MISSILES C											
MRBM (SS-4-Type)						1	6	12	20	28	35
Ballistic Missile Subs.											
SSB-G a/	1	1	1	1	1	1	1	1	1	1	1
BOMBERS b/											
BULL/TU-4 BADGER/TU-16 TOTAL	13 2 15	12 2 14	10 2 12	8 2 10	6 <u>2</u> 8	4 3 7	10 10	18 18	<u>26</u> 26	36 36	

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a/ SS-N-4-Type missile available in 1969 from RDT&E program.
b/ IL-28, IL-10 and TU-2 bombers are listed under General Purpose Forces.
c/ Missiles and aircraft will have nuclear warheads and bombs respectively.

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				(Table 1 Cont.)	
				FORCE A	
				STRATEGIC DEFENSIVE FORCES	
				<u>1965 1966 1967 1968 1969 1970 1971 1972 1973 1974 1975</u>	

			~	*********		21,02,12		_			
	<u> 1965</u>	1966	<u> 1967</u>	<u>1968</u>	<u> 1969</u>	<u> 1970</u>	<u> 1971</u>	<u>1972</u>	<u>1973</u>	<u> 1974</u>	<u> 1975</u>
SURFACE-TO-AIR-MISSILES		•									
SA-2-Type Sites	8	8	8	8	8	8	8	8	8	8	8
INTERCEPTORS &											
FAGOT/MIG-15 FRESCO/MIG-17 FRESCO D/MIG-17-D FARMER/MIG-195/ FISHBED/MIG-21 TOTAL	408 1107 325 175 35 2050	400 1100 325 350 35 2210	350 1050 325 500 35 2260	275 1000 290 650 35 2240	200 950 230 800 35 2215	50 850 215 875 50 2040	700 200 900 100 1900	550 150 900 140 1740	350 100 900 200 1550	200 50 900 300 1450	50 25 900 400 1375
CONVENTIONAL AAA GUNSD											
Light Medium	1900 1570	1950 1600	2000 1600	2050 1600	2100 1600	2150 1600	2200 1600	2250 1600	2300 1600	2350 1600	2400 1600
TOTAL	<u>3470</u>	3550	<u> 3600</u>	<u> 3650</u>	3700	<u>3750</u>	3800	3850	3900	<u>3950</u>	4000

a/ Includes Naval Interceptors
b/ The category Light AAA Guns includes the 37 and 57 mm; the Medium, the 85 and 100 mm.
c/ The mid-1966 figure shown for MIG-19's is believed to be a reasonable reflection of the size of the OB. However, it should be noted that there is still uncertainty in the community on this subject.

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	FORCE A (Table)										
			G	ENERAL	PURPO	SE FOR	CES				
	<u> 1965</u>	1966	<u> 1967</u>	<u>1968</u>	1969	1970	1971	1972	1973	1974	1975
GROUND FORCES											
Line Divisions Infantry(Conventional) Armored Horse Cavalry Airborne Naval Infantry	106 5 3 3	106 5 3 3	106 5 3 3	106 5 3 3	106 5 3 3	106 5 3 3	106 5 3 3	106 5 3 3	106 5 3 3	106 5 3 3	106 5 3 3
BS/MIS Divisions	20	20	20	20	20	20	20	20	20	20	20
Combat Support Divisions	23	23	24	24	24	24	24	24	24	24	24
Service Support Divisions	n	11	11	11	11	11	11	11	11	11	11
Combat & Service Support Independent Regiments	121	123	123	123	124	125	126	127	128	129	130
ARMOR T-54-Type Improved T-54-Type PT-76-Type	1300	1650 	2050	2500 	2950 	3400	3850 	4300 	4650 20	4800 80	4800 25 180
HELICOPTERS											
Mi-4	18	60	90	120	150	180	210	240	270	300	330
TRANSPORTS Light Medium Total	3 ⁴ 7 6 353	359 10 369	440 15 455	505 25 530	565 30 595	630 30 660	695 30 725	745 <u>30</u> 775	845 30 875	920 30 950	995 30 1025
LIGHT BOMBERS											
BAT/TU-2 BEAST/IL-10 BEAGLE/IL-28	50 30 159	25 10 130	100	 80	 55	 30	 15				

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FORCE A

GENERAL PURPOSE FORCES

1965 1966 1967 1968 1969 1970 1971 1972 1973 1974 1975

(Table 1 Cont.)

NAVAL FORCES											
Submarines SS-MV and S-1 SS-W SS-R SS-CX-1 TOTAL	7 24 2 —————————————————————————————————	7 24 4 —————————————————————————————————	7 24 6 	7 24 8 	7 24 9 40	7 24 10 41	7 24 11 —————————————————————————————————	6 24 12 42	5 24 12 1 42	5 24 12 1 42	4 24 12 2 42
Naval Aircraft MADGE/BE-6 BEAGLE/IL-28	118 118	5 100	3 80	2 70	 45	20			 		
Surface Ships Destroyers DD (Gordy Class) ASW Escorts DE (Riga Class) DE (Kiangnan Class) DE-CX-1	14 	14 14 1	14 14 1	 14	4 4 2	4 3 	4 4 3	4 4 3 1	4 4 3 1	4 4 3 2	4 4 3 2
Torpedo/Patrol Craft PC (Subchaser) PTG (Msl.Launching)a/ PT/PTF/PF/PGM	25 2 250	26 2 280	27 2 300	28 2 300	300 5 5	30 2 300	30 2 300	30 14 300	30 6 300	30 8 300	30 10 300

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(Table 1 Cont.)

FORCE A GENERAL PURPOSE FORCES

	GENERAL TOTTODE PORCES										
	<u> 1965</u>	1966	<u> 1967</u>	<u> 1968</u>	<u> 1969</u>	<u> 1970</u>	<u> 1971</u>	<u> 1972</u>	<u>1973</u>	1974	<u> 1975</u>
NAVAL FORCES											
Minesweepers T-43-Type Other	14 59	1 5 59	16 59	17 59	18 59	19 59	20 58	22 56	26 52	30 48	35 144
Amphibious ISM-Type	59	59	59	59	59	60	60	60	60	60	60
Misc.Nav.Ships & Craft	435	440	445	450	455	460	465	470	475	480	485
COASTAL DEFENSE CRUISE MISSILES											
SS-CD-1-Type Sites	3	3	3	3	3	3	3	3	4	4	5

a/ Missile available in 1971.

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ALTERNATIVE FORCE B

Force Concept and its Implications

Alternative Force B projects the maximum strategic attack capability the Chinese might reasonably be expected to achieve in the next ten years or so without neglecting other essential military requirements. Main emphasis would be placed on prompt development and subsequent maintenance of as formidable and credible as possible a capability to strike with nuclear weapons, first against US bases and other potential targets in the Far East but as soon as possible thereafter at intercontinental ranges against the US and (if need be) the USSR. Given the heavy allocation of resources which would be required for this purpose, defensive and general purpose forces would be restricted to the Force A level.

This approach is not intended to imply any greater willingness to risk war with the US or any greater belief that war with the US is more likely than is the case with Force A. It rather reflects a harsher view of the requirements of deterrence: a belief that China cannot be assured that its modern weapons will be effective in restraining the US and in overawing China's neighbors unless they provide a substantial, well-organized, and reasonably credible retaliatory capability.

An essentially professional and systematic approach of this sort to the problem of determining military requirements might develop as 25X6

to the problems of dealing with modern weapons. Its adoption would be a strong indication that the efforts of the old leadership to stifle the growth of independent thinking and professional attitudes among the military had failed. This approach might also be encouraged by a belief that other nations were not taking China's modern weapons program seriously enough, by a desire to keep well ahead of possible (or impending) Indian nuclear weapons programs, or by a simple desire to have more assured diplomatic leverage against China's weaker neighbors.

In projecting this force we have assumed that expenditures for development and production of military hardware, instead of leveling off (as in the case of Force A), continue to grow at about the same rate as that postulated for the machinery sector of heavy industry as a whole. This implies that the Chinese could not afford, at least on a sustained basis, to allow such military expenditures to grow much more rapidly than those for the comparable portions of the civilian economy.* Although this rate of growth would permit a doubling of military procurement expenditures by the mid-1970's,** there would still be significant limitations on what the Chinese could procure. At the same time, the economic and technological resources which could be used for non-military purposes would be severely limited. A serious attempt to develop and maintain a

^{*} See Appendix B for a discussion of the economic considerations on which this assumption is based.

^{**} As measured in dollars; somewhat more in yuan terms. See Appendix B.

a reasonably credible deterrent force as postulated here would involve China in an unending problem of trying to catch up with US technology and deal with possible US countermeasures. Though we have not detailed all of the improvements and follow-on systems the Chinese might seek to develop in the latter 1970's and thereafter, the cost would amost certainly be high.

Most of the programs here projected could probably be handled by existing plants and facilities. However, a new rangehead for the IRBM and ICBM would be required. In addition, there would probably have to be some expansion of nuclear facilities, notably of the

25X2

Strategic Offensive Forcess

This projection calls for a considerably more rapid and extensive buildup of strategic offensive forces than does Force A. It is assumed that targeting would be more systematic and rigorous under this approach. It is also assumed that the Chinese planners would regard a rapid buildup in the number and types of deliverable weapons as initially offering the best assurance that at least some of them could survive enemy defense or counterforce operations. Thus, we project continued work on all three major delivery systems now apparently under development.

In the case of the SS-4-type MRBM, which is assumed to be now under development, we project a buildup to 80 deployed in 1973 (out of a total

production of 180), with 30 in the inventory by 1970 as against only 1 for Force A. It is assumed that these would be deployed against targets in Okinawa, Japan, South Korea, Taiwan, South Vietnam, the Philippines, and Thailand. It is assumed that even under the Force B approach the Chinese would be reluctant to take on the design problem, heavy costs, and long construction time (with its risks of detection) inherent in hardening of sites. We, therefore, have projected the use of road-transportable MRBM's, multiple (including dummy) sites, and camouflage to deal with the threat of preemptive attack.

This MREM deployment would be supplemented by the introduction of an IRBM in 1973, with total deployment reaching 50 in 1976. This would give China a capability to hit Guam, targets in India and, if need be, a number of major centers in the USSR. (Moscow itself would be within range of a 2000 nm IRBM sited at Urumchi in the northwestern part of China). We assume that a significant number of IRBM's would be located deep within China, where they could be used either to supplement the MREM's in coverage of major Far East targets or to cover potential targets in India and the USSR. Since the IREM's would be too large to be moved readily to alternate sites, the Chinese would have to rely primarily on hardening to protect them from missile attack. However, they might also hope that locating many of them far inland,

25X4

might make it more difficult for an attacker to hit.

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With respect to the ballistic missile submarine, we project a total of 4 G-class submarines equipped with a 350 nm missile by 1970. This would be a large enough force to permit the establishment of regular and continuous sea patrols as far out as Hawaii and would give the Chinese a SLEM capability against more than one target area concurrently. We also postulate two follow-ons to the G-class submarine: (a) a 4-tube improved diesel-propelled submarine, utilizing the Albacore-type hull, with greater cruising range than the G-class, but using the same missile; and (b) a 6-tube nuclear-propelled submarine with a submerged-launch missile of 600 nm range. Under this projection, the first follow-on would be completed in 1970 and become operational in 1971, with a total of 4 deployed by 1974. The first nuclear submarine is projected for IOC in 1978.

For Force B we also projected a much larger BADGER program than in Force A -- with 36 in the order of battle by 1970 and 130 in 1972 and thereafter. This would provide a more substantial and flexible air threat to an area including all US bases west of Wake and including major Indian cities.

It is assumed that an ultimate goal of the Force B military buildup would be the achievement of a capability to strike the continental US with ICBM's, submarine-launched missiles, or both, and that the IRBM would provide components which could be used in an ICBM. As far as we can determine, the Chinese could not significantly speed development of an ICBM by omitting the IRBM stage.

Our projection calls for a 5000-nm ICBM to have an IOC in 1974, with ten missiles deployed in hard sites in mid-1975, and with the deployed total reaching a level of 72 in 1978. Launched from Manchuria, a 5000-nm missile could reach targets as far out as a line extending from Los Angeles through Denver, Omaha, and Milwaukee to Montreal.

This timetable would call for flight testing of the ICEM to begin in 1972, with construction of a new rangehead for ICEM testing beginning in 1970 and construction of hard sites for the first deployed missiles beginning in 1972. It is assumed that extended range tests for an ICEM would require use of a Pacific Ocean or Indian Ocean impact area, using shipbased or island-based instrumentation.

In addition to development of these major systems, the Force B approach would also call for continued RDT&E to improve the effectiveness and survivability of Chinese modern weapons in the light of what would presumably be a vigorous US program to counter them. The Chinese would have to consider the use of penetration aids for their missiles. To reach additional US targets they would need an ICBM of more than 5000 nm. In addition, they might be impelled to devote greater attention to active defense of their missile sites once the strategic offensive forces had been built up. These additional requirements would add to the difficulties with which the Chinese would be confronted in trying to develop and maintain a reasonably credible deterrent force. Sooner or later the

Chinese might have to concentrate on more secure systems such as the nuclear missile submarine. In the end, they might settle for a deterrent posture in which the US could probably deal with most Chinese offensive weapons but could not be completely confident of eliminating them all before they reached their targets.

Strategic Defensive and General Purpose Forces
Same as Force A.

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Approved For Release 2003/10/22 : CIA-RDP50B01676R001600130004-9 TABLE 2. FORCE B

STRATEGIC OFFENSIVE FORCES

	<u> 1965</u>	<u> 1966</u>	<u> 1967</u>	1968	1969	1970	1971	1972	<u> 1973</u>	1974	1975
BALLISTIC MISSILES d									k		
MREM(SS-4-Type)	•=			3	12	30	50	7 0	80	80	, 80
IREM-CX-1									8	22	40
ICEM-CX-1				_==		_==	_==			2	_10
TOTAL				3	12	30	50	_70	88	104	130
Ballistic Missile Subs. a											
SSB-G <u>b</u> / SSB-CX-1	1	1	1	1	2	4	4	4	4	4	4
TOTAL	1	1	1	1	2	14		<u>2</u>		8	8
SS-N-4-Type Missiles					6	12	16	20	24	28	28
TOTAL					6	12	16	20	24	28	28
BOMBERS C/											
BULL/TU-4 BADGER/TU-16	13 2	12 2	10 2	5 2	 12	 36	80	130	130	130	130
TOTAL	15	14	12	7	12		80		130		130

a/ Construction of an SSBN is projected to begin in 1975. See p. 29.
b/ SS-N-4-Type missile available in 1969.
c/ IL-28, IL-10 and TU-2 bombers are listed under General Purpose Forces.
d/ Missiles and bombers will have nuclear warheads and bombs respectively.

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FORCE B

STRATEGIC DEFENSIVE FORCES <u> 1970</u> SURFACE-TO-AIR-MISSILES SA-2-Type Sites INTERCEPTORS2/ FAGOT/MIG-15 FRESCO/MIG-17 FRESCO D/MIG-17D FARMER/MIG-195/ FISHBED/MIG-21 TOTAL CONVENTIONAL AAA GUNSD/ 2100 -2150 Light

Medium

TOTAL

a/ Includes Naval Interceptors

The category Light AAA Guns includes the 37 and 57 mm; the Medium, the 85 and 100 mm. c/ The mid-1966 figure shown for MIG-19's is believed to be a reasonable reflection of the size of the OB. However, it should be noted that there is still uncertainty in the community on this subject.

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					FORCE	B			(Tabl	e 2 -	Cont.)
				GENERA	L PURP	OSE FO	RCES				
			4-	60	(-					2 oct.	
	<u>1965</u>	1966	<u> 1967</u>	1968	<u> 1969</u>	1970	<u> 1971</u>	<u> 1972</u>	<u>1973</u>	1974	1975
GROUND FORCES											
Line Divisions											
Infantry (Conventional) Armored	106	106 5	106 5	106 5	106 5	106 5	106 5	106 5	106 5	106 5	106 5
Horse Cavalry	5 3	3	3	3	3	3	3	3	3	3	3
Airborne	3	3	3	ž	3	3	3	3	3	. 3	3
Naval Infantry											
BS/MIS Divisions	20	20	20	20	20	20	20	20	20	20	20
Combat Support Divisions	23	23	24	24	24	24	24	24	24	24	24
Service Support Divisions	17	11	11	11	11	11	11	11	n	11	11
Combat & Service Support											
Independent Regiments	121	123	123	123	124	125	126	127	128	129	130
ARMOR											
T-54-Type	1300	1650	2050	2500	2950	3400	3850	4300	4650	4800	4800
Improved T-54-Type											25 180
РТ-76-Туре									20	80	180
HELICOPTERS											
M1-4	18	60	90	120	150	180	210	240	270	300	330
TRANSPORTS											
Light	347	359	1110	505	565	630	695	745	845	920	995
Medium	<u>6</u> 353	- <u>10</u> 369	15 455	25 530	<u>30</u> 595	<u>30</u>	30 725	30 _775	<u>30</u> 875	950	30 1025
Total	_323	309	422	230	292	000	15)	_112	012	270	102)
LIGHT BOMBERS											
BAT/TU-2	50	25									
BEAST/IL-10	30	10	7.00								
BEAGLE/IL-28	159	130	100	80	55	30	15				

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Approved For Release 2003/10/21: CIA-RDP80B01676R001600130004-9 SECRET (Table 2 Cont.) FORCE B GENERAL PURPOSE FORCES <u>1965</u> <u>1966</u> <u>1967</u> <u>1968</u> <u>1969</u> <u>1970</u> <u>1971</u> <u>1972</u> <u>1973</u> <u>1974</u> <u>1975</u> NAVAL FORCES Submarines 24 24 24 24 24 24 24 SS-MV and S-1 SS-W SS-R SS-CX-1 TOTAL Naval Aircraft MADGE/BE-6 80 BEAGLE/IL-28 Surface Ships Destroyers DD (Gordy Class) ASW Escorts DE (Riga Class) DE (Kiangnan Class) DE-CX-1 Torpedo/Patrol Craft PC (Subchaser) PTG (Msl.Launching) 2/

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(Table 2 Cont.)

FORCE B

GENERAL PURPOSE FORCES

	<u> 1965</u>	<u> 1966</u>	<u> 1967</u>	<u> 1968</u>	<u> 1969</u>	<u> 1970</u>	1971	<u> 1972</u>	<u> 1973</u>	<u> 1974</u>	1975
NAVAL FORCES											
Minesweepers T-43-Type Other	14 59	15 59	16 59	17 59	18 59	19 59	20 58	22 56	26 52	30 48	35 ԱԱ
Amphibious ISM-Type	59	59	59	59	59	60	60	60	60	60	60
Misc. Nav. Ships & Craft	435	440	445	450	455	460	465	470	475	480	485
COASTAL DEFENSE CRUISE MISSILES											
SS-CD-1-Type Sites	3	3	3	3	3	3	3	3	14	14	5

a/ Missile available in 1971.

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ALTERNATIVE FORCE C

Force Concept and its Implications

Alternative Force C projects a vigorous modernization program comparable in economic magnitude to Force B but with main emphasis on improving China's defenses rather than on developing strategic offensive forces. Force C thus depicts the maximum air and naval defense effort the Chinese might reasonably be expected to carry out in the light of competing military requirements. This projection also calls for a modest but continuing program of ground force improvements along the lines of Alternative Force A.

Like Force B, Force C is primarily directed at deterring US attack on China and at impressing China's neighbors with its ability to defend itself; similarly, it implies a more exacting and professional assessment of the requirements of deterrence than is the case with Force A. Primary emphasis on strategic defense would be very much in character with the historical concern of the Chinese for the security of their own territory. The decision to develop such a force might also be stimulated by a professional judgment that the strengthening of strategic defenses would significantly complicate the task facing the potential US attacker, or by a judgment that while Chinese strategic retaliatory forces could effectively deter US nuclear attack they would not necessarily stave off conventional bombing. It is assumed that the Chinese leaders would also

favor a buildup of air and naval defenses in order to make it progressively more dangerous for the US and GRC to overfly Chinese territory or operate off the Chinese coast in peacetime.

For this Force the level of expenditures for development and procurement of military hardware is approximately that of Force B, with similar implications for the economy as a whole. It is assumed that nuclear requirements would be lower than for Force B.

Strategic Offensive Forces

Given the emphasis on strategic defensive forces in this alternative, the strategic offensive forces are those of Force A. It should be noted, however, that provision is made below, under General Purpose Forces, for the conversion of W-class submarines to cruise-missile launchers. Although these submarines would be used primarily against US naval task forces, they could be used to make nuclear strikes with cruise missiles against ports and bases in the Western Pacific.

Strategic Defensive Forces

For this Force, we postulate a major buildup of all elements of the air defense system, including the control and warning infrastructure. Expansion of the interceptor force would take place at an accelerated pace.

Assuming that the manufacture of the MIG-21 could commence at Cheng-tu in

1966, we project a production run continuing through the period, with a total of 800 in the force by 1975. Production of MIG-19's is assumed to continue at the Shenyang plant until 1970, with the plant then converted to production of a new native-design interceptor with improved high altitude and endurance characteristics. It is assumed that this interceptor would begin to enter the order of battle in 1974, with 50 of these aircraft in units by 1975. The inventory of conventional anti-aircraft artillery would also be greatly expanded, with the total number of gun mounts reaching about 5000 by 1975. Finally, the Force would provide for a significant buildup of the presently very small SAM force. For this purpose we assume that RDT&E, now apparently in process, on a Chinese version of the SA-2 would permit factory production to begin in 1967 and continue through 1971, for a total deployment of 100 6-launcher batteries.

These weapons would be deployed as an integrated system, AAA being associated with SAM's to provide low level coverage and interceptors being used to provide coverage in areas outside the SAM envelopes. It is assumed that limitations on the number of SAM batteries available would force the Chinese to use them mainly for point defense, with the capital at Peiping, the nuclear installations, and key military control centers getting primary attention. However, the Chinese would continue to deploy some SAM's along reconnaissance routes. In time they might develop shifting barriers along the coast, building up a multiplicity of sites

to create uncertainty as to which ones would be occupied. Such a barrier might appear for a period of time along the coast opposite Taiwan and at a later period along another border or coastline across which the Chinese might expect intruders into their airspace.

It is assumed that while the Chinese would probably be compelled to standardize on their version of the SA-2 for a first generation weapon, they would continue RDT&E on some sort of followen system. This newer system, which would appear late in the period, would have better guidance and control, greater maneuverability, and improved low altitude capability, as well as somewhat longer range and better performance at higher altitudes. Further, we project that some time in the latter 1970's the Chinese might be able to develop a dual purpose SAM/AEM system, perhaps using MREM missiles and long-range low frequency radars, and relying on longer-range effects of high-altitude nuclear detonations on both missiles and aircraft. Even if a major deployment was beyond their capabilities, the Chinese might seek to develop a pilot model for its psychological effect.

General Purpose Forces

Under this alternative, ground forces would be maintained at the Force A level but naval and coastal defenses would be strengthened along with air defense. The existing coastal defense early warning network, with its radars for detecting aircraft and surface ships, would be expanded and improved. It is assumed that by 1970 this surveillance

network would be augmented and extended seaward by the introduction into the order of battle of the RB-CX-1. This would be a long-range reconnaissance aircraft, a modification of a standard transport model with long endurance, such as the IL-18, and equipped with electronic reconnaissance systems.

We assume that the Chinese in this Force would make a greater effort to deny US submarines access to their territorial waters than in the other Forces and would hope eventually to be able to seek out and to destroy US submarines in the seas bordering their coast. For this purpose we project the construction of four new destroyers and eight more destroyer escorts -of which six are a new class and two of the recent Kiangnan class -- as well as additional submarine chasers and various types of patrol craft. The Chinese would also deploy sound detection systems (i.e., buoys and shallow water arrays) off port and estuary entrances and would be prepared to use mine fields if necessary to achieve control of these vital areas. This would make it more difficult for hostile submarines to operate well inshore, particularly in strategic coastal areas. However, the great expense of developing ASW weapon systems and procuring them in numbers required for adequate coverage would limit the achievement in this period of any broader ASW capability, particularly against nuclear-propelled submarines.

The Chinese in this projection would also attempt to strengthen those forces capable of attacking US naval forces operating in the seas

bordering China. To this end, it is assumed that they would strengthen their submarine force through development of the SS-CX-1, an improved torpedo-attack submarine, of which 10 would enter the force by 1975, and through the conversion of 4 W-class submarines into cruise missile launching platforms. The BEAGLE light bomber would be retained in the naval order of battle until the early 1970's, when the BADGER with the AS-1 anti-ship missile would become available. Some 30 BADGERS would enter the naval forces by 1974 to be employed in conjunction with submarines and reconnaissance aircraft to provide a long-range strike capability. It is also assumed that the Chinese would produce additional numbers of various types of torpedo boats, including the missile-equipped OSA/KOMAR type. Such boats, supported by destroyers and land-based fighters when available, would be used for close-in defense.

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TABLE 3. FORCE C

STRATEGIC OFFENSIVE FORCES

	<u> 1965</u>	1966	<u> 1967</u>	<u>1968</u>	<u> 1969</u>	<u> 1970</u>	<u>1971</u>	<u> 1972</u>	<u> 1973</u>	<u> 1974</u>	<u> 1975</u>
BALLISTIC MISSILES 5										00	25
MRBM (SS-4-Type)						1	6	12	20	28	35
Ballistic Missile Subs.						_		1	1	1	1
ssb-ga/	1	1	1	1	1	1	1		1		_
BOMBERS b					_	,					
BULL/TU-4 BADGER/TU-16	13 2	12 2	10 2	8 2	6 2	3	10	18	26	36	36
TOTAL	15	14	12	10	8	7	10	18	<u>26</u>	<u>36</u>	36

a/ SS-N-4-Type missile available in 1969 from RDT&E program.
b/ IL-28, IL-10 and TU-2 bombers are listed under General Purpose Forces.

c/ Missiles and bombers will have nuclear warheads and bombs respectively.

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			STRA	FORCE PEGIC		IVE FO	RCES		(Table 3 Cont.)		
	<u> 1965</u>	<u> 1966</u>	<u> 1967</u>	<u>1968</u>	<u>1969</u>	1970	1971	1972	<u> 1973</u>	1974	<u> 1975</u>
SURFACE-TO-AIR-MISSILES SA-2-Type Sites SA-CX-1 Sites INTERCEPTORS	8	8	14	36	58	80	100	100	100	1005	100 15
FAGOT/MIG-15 FRESCO/MIG-17 FRESCO D/MIG-17D FARMER/MIG-19 S/ FISHBED/MIG-21 FI-CX-1	408 1107 325 175 35	400 1100 325 350 35	350 1050 320 525 35	275 1000 290 700 50	200 950 260 875 100	125 850 230 1050 175	100 700 200 1100 250	50 550 150 1100 400	25 350 100 1100 550	250 50 1100 700 3	100 25 1100 800 50
TOTAL	2050	2210	2285	2315	2385	2430	2350	2250	2125	2103	2075
CONVENTIONAL AAA GUNS											
Light Medium	1900 1570	2000 1600	2100 1650	2200 1700	2300 1750	2400 1800	2500 1850	2600 1900	2700 1950	2800 2000	2900 2050
<u>TOTAL</u>	<u>3470</u>	3600	<u>3750</u>	<u>3900</u>	4050	4200	4350	4500	4650	4800	4950

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a/ Includes Naval Interceptors.
b/ The category Light AAA Guns includes the 37 and 57 mm; the Medium, the 85 and 100 mm.
c/ The mid-1966 figure shown for MIG-19's is believed to be a reasonable reflection of the size of the OB. However, it should be noted that there is still uncertainty in the Community on this subject.

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(Table 3 Cont.)

GENERAL PURPOSE FORCES

	1965	1966	<u> 1967</u>	<u> 1968</u>	<u> 1969</u>	<u> 1970</u>	<u> 1971</u>	<u> 1972</u>	<u> 1973</u>	<u> 1974</u>	<u> 1975</u>
GROUND FORCES											
Line Divisions Infantry (Conventional) Armored Horse Cavalry Airborne Naval Infantry	106 5 3 3	106 5 3 3	106 5 3 3	106 5 3 3	106 5 3 3	106 5 3 3	106 5 3 3	106 5 3 3	106 5 3 3	106 5 3 3	106 5 3 3
BS/MIS Divisions	20	20	20	20	20	20	20	20	20	20	20
Combat Support Divisions	23	23	24	24	24	24	24	24	24	24	24
Service Support Divisions	11	11	11	11	11	11	11	11	11	11	11
Combat & Service Support Independent Regiments	121	123	123	123	124	125	126	127	128	129	130
ARMOR											
T-54-Type Improved T-54-Type PT-76-Type	1300 	1650 	2050	2500 	2950 	3400 	3850 	4300 	4650 20	4800 80	4800 25 180
HELICOPTERS											9
M1-4	18	60	90	120	150	180	210	240	270	300	330
TRANSPORTS Light Medium Total	3 ¹ 47 6 353	359 10 369	440 15 455	505 25 530	565 30 595	630 30 660	695 30 725	745 <u>30</u> 775	845 30 875	920 30 950	995 30 1025
LIGHT BOMBERS BAT/TU-2 BEAST/IL-10 BEAGLE/IL-28	50 30 159	25 10 150	140	 130	120	 110	100	 80	 60	30	

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(Table 3 Cont.)

FORCE C

GENERAL PURPOSE FORCES

	1965	<u> 1966</u>	<u> 1967</u>	<u> 1968</u>	<u> 1969</u>	1970	<u> 1971</u>	<u> 1972</u>	<u> 1973</u>	<u> 1974</u>	<u> 1975</u>
NAVAL FORCES											
Submarines SS-M-V and S-1 SS-W SS-R SS-CX-1 SSG-W Conversion	7 24 2 	7 24 4 	7 24 6 	7 24 8 	7 24 10 	7 24 12 	7 23 12 1	6 22 12 2 1	5 21 12 4 2	20 12 7 3	3 20 12 10 4
TOTAL	33	5		9	41	43	<u>43</u>	<u>43</u>	1414	<u>46</u>	49
Naval Aircraft MADGE/BE-6 BEAGLE/IL-28 BADGER/TU-16 a/ RB-CX-1	6 118 	6 120 	5 110 	5 100 	4 90 	4 80 2 4	3 60 2 8	2 40 10 12	1 20 20 16	 30 20	 30 24
Surface Ships											
Destroyers DD (Gordy Class) DD-CX-1	4	<u>4</u>	4	4 	4 1	4 1	4 2	4 2	4 3	4 3	4 4
ASW Escorts DE (Riga Class) DE (Kiangnan Class) DE-CX-1	4 	4 1 	4 1 	4 2 	4 2 	4 3 	14 3 	4 4 1	4 4 2	14 14 14	4 4 6
Torpedo/Patrol Craft PC (Subchaser) PTG (Msl. Launching) PT/PTF/PTF/PGM	24 2 250	26 2 280	28 2 300	30 3 320	33 4 340	36 8 360	36 12 360	36 18 360	36 24 360	36 30 360	36 36 360
Minesweepers T-43-Type Other	14 59	15 59	16 59	17 59	21 59	27 59	35 58	43 56	53 62	65 48	70 44

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FORCE C

GENERAL PURPOSE FORCES

	1965	<u> 1966</u>	<u> 1967</u>	<u> 1968</u>	<u> 1969</u>	1970	<u> 1971</u>	1972	<u> 1973</u>	<u> 1974</u>	<u> 1975</u>
Amphibious ISM-Type	59	59	62	65	68	70	74	78	82	86	90
Misc. Nav. Ships & Craft	435	440	445	455	465	475	490	515	540	570	600
COASTAL DEFENSE CRUISE MISSILES											
SS-CD-1-Type Sites	3	3	3	3	4	8	12	16	20	24	28

 $[\]underline{a}/$ These aircraft are not included in those listed under Strategic Offensive Forces. $\underline{b}/$ Missile Available in 1969

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ALTERNATIVE FORCE D

Force Concept and its Implications

Alternative Force D postulates a major effort to modernize China's general purpose forces. Principal emphasis would be placed on modernization of ground and supporting air forces, but there would also be some buildup of naval and amphibious capabilities. Work on development of strategic offensive and defensive systems would continue. Over-all expenditures would be about the same as for Forces B and C.

This projection represents a less drastic approach to modernization than that of Forces B and C, reflecting a continuation of the regime's present emphasis on the army as the key element in the military establishment. Such a major effort to modernize China's general purpose forces might be undertaken in a belief that acquisition of nuclear weapons might give China greater opportunity to threaten or actually undertake conventional military operations in peripheral areas. Conversely, it might stem from continuing basic concerns over the defense of the Chinese homeland against invasion and over the possibility that situations like that in Vietnam might come to require direct Chinese participation.

Strategic Offensive and Strategic Defensive Forces

No change from Force A.

General Purpose Forces

The principal aim of the major ground force modernization program called for under this approach would be the development of an improved capability for dealing with hostile ground forces equipped and supported on the US or Soviet level. The main features of this program would be:

- a. Creation of an elite force of 15 armies, consisting of 45 improved line divisions (5 of them armored).
- b. Development of a tactical nuclear rocket, for eventual deployment down to army level, primarily as a deterrent to enemy initiation of tactical nuclear warfare.
- c. Establishment of a tactical air force equipped with aircraft specifically designed for the ground-support role.
- d. Initiation of a modest program for improvement of amphibious capabilities.

The reconstitution of 15 armies and their 45 line divisions into a fully modernized elite force would entail major changes both in organization and equipment and in such matters as training, where the present emphasis on individual and small unit proficiency would presumably be broadened to provide for larger-scale field exercises. It is assumed that these troops would have virtually all their time available for training or other military duties.

We project a new-type infantry division for the elite force which would have about 2000 fewer personnel, but would be considerably stronger than its present counterpart in mobility, firepower, and other respects.

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The three infantry regiments would be motorized, with one battalion of each equipped with amphibious armored personnel carriers and the other two battalions with conventional cargo trucks. Division artillery would consist of two battalions of 122-mm howitzers, 12 guns each, and one battalion of twelve 160-mm mortars. The tank regiment would be expanded from 32 to 64 medium tanks and would include 12 Chinese-developed heavy assault guns as replacements for the present assault guns. A maintenance battalion would be added to the rear services of the division. The reconnaissance company of the division would have six amphibious PT-76 type tanks and division headquarters would have three helicopters for command and observation use. Anti-tank companies of the infantry regiments would be equipped with SAGGER-type missiles.

The armored divisions would be similarly strengthened. By 1976 all medium regiments would have improved T-54 tanks and would have SAGGER-type AT missiles and heavy assault guns to replace the present AT guns and the present heavy tanks and assault guns respectively.

At the army level, the chief innovations would be the expansion of signal and transport battalions into regiments, the addition of an engineer pontoon regiment and a maintenance battalion, and provision of six helicopters for command and control.

It is assumed that the Chinese planners would recognize that many of their troops, including but not restricted to those deployed along the Southeast Asian and Indian borders, would be most likely to fight in terrain where heavy, complex equipment could not be effectively employed. For these units, comprising some 65 divisions, present TO&E's would be

retained and the planning goal would be essentially that of Force A -the re-equipping of all units with standardized arms and equipment of
currently accepted Soviet or Chinese design. As at present, these units
would continue to devote about half their time to raising food crops
and livestock or to road construction and the like.

We assume that technological and cost constraints would preclude development and quantity deployment of a HAWK/SA-3-type SAM, forcing the Chinese to depend on conventional AAA for air defense of ground troops. However, a simple, man-packed SAM might appear in the latter 1970's.

In the tactical nuclear field we assume that the Chinese would be primarily interested in deterring the use of such weapons, rather than in concentrating on the requirements of the nuclear battlefield, and that their needs in this respect would be satisfied by a relatively crude capability to strike back at the zone of command, supply, and supporting weapons installations a few miles from the front. This would imply a weapon of 15-30 nm which could be deployed at the army level. We assume that the Chinese would not see a need for a weapon with the range (150 nm) of the SCUD and would want something measier with move. Our projection thus calls for a FROG-type weapon which would initially be held under central control for assignment to particular theaters and units as necessary, but which would eventually be made organic at the army level. We assume that the Chinese would also seek to develop a nuclear bomb deliverable by tactical fighter-bomber.

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Under this projection the tactical air force would be initially equipped primarily with MIG-15's and 17's as they were retired from the air defense force, together with some BEAGLES and other types now in the inventory. Some MIG-19's would be built for use as fighter-bombers; these would be introduced slowly until the latter part of the production run. A native-design fighter-bomber would enter the order of battle in 1974, with 80 in units in 1975 and 250 in 1977. We envisage a subsonic, long-endurance aircraft which could use low-level evasive tactics if attacked by fast interceptors.

China can now lift about 5000 lightly armed troops for a distance of 500 nm. Improvement efforts would be primarily on internal rather than external capability. Troops and supplies would need transport to remote Chinese areas, from one command to another, or for support of operations in contiguous areas; trans-oceanic military transport, for example, would not be a factor. Modest purchases of transports, which could be used for military purposes, would continue until about 1972. Beginning in 1973 we project the production of a four-engine turboprop with approximately the same characteristics as the Soviet CUB (AN-12). It is assumed that the Chinese will receive the required outside assistance to have this capability. By the end of the period about 80 CUB-type aircraft would be produced, or enough to lift simultaneously approximately one-third of an airborne division with a three-day basic load or about 7,500 infantry troops with individual weapons and light machine guns and 60 mm mortars. It is assumed that enough nonmilitary transport aircraft could be made available at that time to lift an additional 5000 troops, carrying their individual equipment and weapons only. The total lift capability at the end of the period would be about one and one half airborne divisions.

The Chinese are aware of the vulnerability of their large land army to tactical chemical warfare attack, and of the vulnerability of their population and agricultural centers to strategic chemical and biological attack. To meet this threat they will find it necessary to improve their CW and BW defense by allocating an increasing share of their scarce industrial and technological resources. In addition, we assume that in Force D, the Chinese Communists will achieve in their tactical forces in the mid-70's a significant offensive CW capability.

On the navy side, we project a buildup of naval and coastal defense capabilities generally like that of Force C, in that this would be a likely concomitant of an increased emphasis on capacity to fight on or near China's borders. However, the postulated Force D naval force does differ in providing a somewhat larger amphibious force and a much larger buildup of the follow-on torpedo-attack submarine, SS-CX-1, 16 of which would be in the fleet by 1975. We assume that the emphasis on building up amphibious capabilities would initially be light, in part because of cost considerations but mainly because the Chinese naval buildup projected for this period would not be enough to permit large-scale or long-range operations in the face of likely US opposition. The increased submarine construction reflects the concept that if the Chinese felt confident that they could engage in ground hostilities of some scale without risking nuclear escalation, they might also feel they could interdict enemy supply lines without undue danger of escalation and at least would wish to be in a position to threaten such action.

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TABLE 4. FORCE D

STRATEGIC OFFENSIVE FORCES

	<u> 1965</u>	1966	1967	1968	1969	1970	<u> 1971</u>	1972	<u> 1973</u>	1974	1975
BALLISTIC MISSILES b											
MRBM (SS-4-Type)						1	6	12	20	28	35
Ballistic, Missile Submarines SSB-G B/	1	1	1	1	1	1	1	1	1	1	1
BOMBERS b/ c/											
BULL/TU-4 BADGER/TU-16	13 2	12	10	8 2	6 2	4 3		18	26		
TOTAL	15	14	12	10	8	7	10	18	26	<u>36</u>	36

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a/ SS-N-4-Type missile available in 1969 from RDT&E program.
b/ IL-28, IL-10 and TU-2 bombers are listed under General Purpose Forces.
c/ Missiles and bombers will have nuclear warheads and bombs respectively

L	L	Applioved Flor Reidase 2003/10/202: Cl	AIRDP80B01676R001660130064-9	L	L L L	L
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		•	FORCE D		(Table 4 Cont.)	

STRATEGIC DEFENSIVE FORCES

			57	MILLOI	C DIM II	110111					
	1965	1966	<u> 1967</u>	1968	<u>1969</u>	<u> 1970</u>	<u> 1971</u>	<u> 1972</u>	1973	<u> 1974</u>	<u> 1975</u>
SURFACE-TO-AIR-MISSILES SA-2-Type Sites	8	8	8	8	8	8	8	8	8	8	8
INTERCEPTORS a											
FACOT/MIG-15 FRESCO/MIG-17 FRESCO D/MIG-17D FARMER/MIG-19 [©] / FISHBED/MIG-21	408 1107 325 175 35	400 1100 325 350 35	150 1050 325 500 35	100 850 290 650 35	50 750 230 800 35	650 215 875 50	500 200 900 100	350 150 900 140	170 100 900 200	100 50 900 300	25 900 400
TOTAL	2050	2210	2060	1925	1860	<u>1790</u>	1700	<u>1590</u>	<u>1370</u>	<u>1350</u>	1325
CONVENTIONAL AAA GUNSD									0200	0250	6).00
Light Medium	1900 1570	1950 1600	2000 1600	2050 1600	2100 1600	2150 1600	2200 1600	2250 1600	2300 1600	2350 1600	2400 1600
TOTAL	2470	3550	3600	3650	<u>3700</u>	<u>3750</u>	3800	3850	3900	<u>3950</u>	4000

a/ Includes Naval Interceptors but not those fighter aircraft assigned to the Tactical Air Forces.

b/ The category Light AAA Guns includes the 37 and 57 mm; the Mediums, the 85 and 100 mm.

c/ The mid-1965 figure shown for MIG-19's is believed to be a reasonable reflection of the size of the OB. However, it should be noted that there is still uncertainty in the Community on this subject.

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(Table 4 Cont.)

FORCE D

GENERAL PURPOSE FORCES

				_	
<u>57</u>	<u> 1968</u>	1969	<u> 1970</u>	1971	1972

	<u> 1965</u>	<u> 1966</u>	<u> 1967</u>	<u> 1968</u>	1969	<u>1970</u>	1971	<u> 1972</u>	1973	1974	1975
GROUND FORCES											
Line Divisions Infantry (Conventional) DIV-CX-1 Armored Horse Cavalry Airborne Naval Infantry	106 5 3 3	106 5 3 3	101 5 5 3 3	98 8 5 3 1	93 12 5 3 3	88 17 5 3 3	83 22 5 3 3	78 27 5 3 3	73 32 5 3 3	68 37 5 3 3	65 40 5 3 3
BS/MIS Divisions	20	20	20	20	20	20	20	20	20	20	20
Combat Support Divisions	23	23	23	24	24	24	24	24	24	24	24
Service Support Divisions	11	11	12	12	12	12	12	12	12	12	12
Combat & Service Support Independent Regiments B	121	123	125	129	134	139	144	149	154	160	166
ARMOR											
T-54-Type Improved T-54-Type PT-76-Type Assault Gun-CX-1,122 mm APC (BTR-60P-Type)	1300	1650	2050 20	2500 125	2950 375	3450 750	4000 20 1200	4550 80 20 1650	5000 40 180 100 2100	5200 300 280 300 2550	5200 800 400 525 3000

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				CT	CRET							
	(Table 4 Cont)											2
	FORCE D											
	GENERAL PURPOSE FORCES											
	<u> 1965</u>	<u> 1966</u>	<u> 1967</u>	<u> 1968</u>	1969	<u> 1970</u>	<u> 1971</u>	1972	<u>1973</u>	<u> 1974</u>	<u> 1975</u>	
THEATER TACTICAL MISSILES e/												
FROG (Launchers)							4	16	36	64	100	
HELICOPTERS												
M1-4	18	60	110	160	210	260	310	360	410	460	510	
TRANSPORTS Light Medium TOTAL	347 6 353	359 10 369	440 15 455	505 25 530	565 30 595	630 35 665	695 40 735	745 45 790	845 <u>57</u> 902	920 81 1001	995 129 1124	
Fighter - Bombers b/ FAGOT/MIG-15 FRESCO/MIG-17 FARMER/MIG-19 FB-CX-1 TOTAL			200 25 225	175 150 50 	150 200 75 425	125 200 175 	100 200 200 500	50 200 200 200 450	25 180 200 405	150 200 25 375	100 200 80 380	
LIGHT BOMBERS BAT/TU-2 BEAST/IL-10 BEAGLE/IL-28	50 30 159	40 25 150	30 20 140	20 15 130	10 10 120	 5 110	100	 80	 60	 30		

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(Table 4 Cont.)

FORCE D

GENERAL PURPOSE FORCES

	1965	1966	1967	1968	<u> 1969</u>	<u> 1970</u>	<u> 1971</u>	1972	1973	1974	<u> 1975</u>
NAVAL FORCES											
Submarines SS-MV and S-1 SS-W SS-R SS-CX-1	7 24 2	7 24 4 ———	7 24 6	7 24 8 	7 24 10	7 24 12 <u>1</u>	7 24 12 2	6 24 12 4	5 24 12 8	4 24 12 12	3 24 12 16
TOTAL	33	35	<u>37</u>	39	<u>41</u>	44	45	<u>46</u>	<u>49</u>	52	55
Naval Aircraft MADGE/BE-6 BEAGLE/IL-28 BADGER/TU-16C/ RB-CX-1	6 118 	6 120 	5 110 	5 100 	¹ 4 90 	80 14	3 60 2 8	2 40 10 12	1 20 20 16	30 20	30 24
Burface Ships Destroyers DD (Gordy Class) DD-CX-1 ASW Escorts DE (Riga Class) DE (Kiangnan Class) DE-CX-1	4 4 	4 4 1	4 4 1	4 4 2 	4 1 4 2 1	4 1 4 3 1	4 2 4 3 2	4 2 4 4 2	4 3 4 4 3	4 3 4 4 3	4 3 4 4
Torpedo/Patrol Craft PC (Subchaser) PTG (Msl. Launching)d/ PT/PTF/PF/PGM	24 2 250	26 2 280	28 2 300	30 2 320	32 2 340	36 4 360	36 6 360	36 8 3 6 0	36 12 360	36 16 360	36 20 360
Minesweepers T-43-Type Other	14 59	15 59	16 59	17 59	21 59	27 59	35 58	43 56	53 52	65 48	70 44

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25X1 (Table 4 Cont.)

FORCE D GENERAL PURPOSE FORCES

	1965	<u> 1966</u>	<u> 1967</u>	<u>1968</u>	1969	1970	<u>1971</u>	1972	<u>1973</u>	<u> 1974</u>	<u>1975</u>
Amphibious ISM-Type	59	60	65	70	80	90	100	105	110	115	120
Mis.Nav.Ships & Crafts	740	440	445	455	465	475	490	515	540	570	600
COASTAL DEFENSE CRUISE MISSILES											
SS-CD-1-Type Sites	3	3	3	3	4	5	6	8	10	10	10

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 $[\]underline{\mathbf{a}}/$ Of the increase of 45 regiments during the period, 30 are projected as resulting from an expansion of current battalions.

b/ These aircraft are not included with Interceptors on the preceding page.

c/ These aircraft are not included in those listed under Strategic Offensive Forces.
d/ Missile available in 1969.

e/ Nuclear warheads will be available for these missiles.

TABLE 5. COMPARISON OF FORCES, 1970 and 1975
STRATEGIC OFFENSIVE FORCES

	<u> 1966</u>	ĺ	1970	2	<u>1975</u>				
		<u>A</u>	В	С	D	<u>A</u>	В	c	D
BALLISTIC MISSILES									
MRBM (SS-4-Type)		1	30	1	1	35	80	35	35
IRBM-CX-1							40		
ICBM-CX-1							10		
TOTAL		1	30	1	1	35	<u>130</u>	35	35
MISSILE LAUNCHING SU	MARINES								
SSBG SSB-CX-1	1 ª/ 	1 	4 	1 	1 	1	<u>1</u> 4	1	1
TOTAL	1 <u>a</u> /	1	4	1	1	<u> </u>	8	1	1
BOMBERS									
BULL/TU-4 BADGER/TU-16	12 2	<u>4</u> <u>3</u>		¹ 4 3b∕	14 3 <u>b</u> /		130		/ <u>36b</u> /
TOTAL	14	7	36		<u>7</u> Ъ/	36	130	<u>36</u> b/	/36b/

 $[\]underline{a}$ / G-Class submarine here is without missiles; projected as available in 1969. \underline{b} / Excludes BADGERS in Maval Air Force.

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(Table 5 - Cont.)

STRATEGIC DEFENSIVE FORCES

		1966		19	<u>70</u>			<u>19</u>	75	
			A	В	С	D	<u>A</u>	В	C	D
	SAM/AEM DEFENSE									
ı	SA-2-Type (Sites) SA-CX-1 (Sites)	8 	8	8	80 	8	8 	8	100 15	8
	AAA (Guns) Light Medium	1950 1600	2150 1600	2150 1600	2400 1800	2150 1600	2400 1600	2400 1600	2900 2050	2400 1600
į	INTERCEPTORS* a/									
i	FAGOT/MIG-15 FRESCO/MIG-17	400 1100	50 850	50 850	125 850	650	50	50	100	
	FRESCO D/MIG-17D FARMER/MIG-19D/ FISHBED/MIG-21 FI-CX-1	325 350 35	215 875 50	215 875 50	230 1050 175	215 875 50	25 900 400	25 900 400	25 1100 800 50	25 900 400
j	TOTAL	2210	2040	2040	2430	1790	1375	1375	2075	1325 c/

c/ Fighter-Bombers are listed under Tactical Air Forces on page 62.

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a/ Includes Naval Aircraft, but excludes fighter aircraft assigned to Tactical Air Forces in Force D.

b/ The mid-1966 figure shown for MIG-19's is believed to be a reasonable reflection to the size of the OB. However, it should be noted that there is still uncertainty in the Community on this subject.

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(Table 5 Cont.)

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GENERAL PURPOSE FORCES

	1966	Ì	<u>19</u>	<u>70</u>		Ī	1975				
		A	В	C	D	A	В	C	D		
GROUND FORCES											
Line Divisions Infantry											
Conventional DIV-CX-1		106	106	106	88 17	106	106	106	65 40		
Armored Horse Cavalry	5 3	5 3 3	5	5	5	5	5	5			
Airborne	3	3	3 3	3	3	3 3	3 3	3	5 3 3 2		
Naval Infantry BS/MIS Division		1			2				2		
Combat Support	8 20 Divs. 22	20 24	20	20	20	20	20	20	20		
Service Support	Divs.11	11	24 11	24 11	24 12	24	24 1 1	24	24		
Combat & Service	e	i —		J-4L	12	1 11	11	11.	12		
Support Indepe dent Regimen	en- 123 nts	125	125	125	139	130	130	130	166		
Armor T-54-Type	1 650	21:00	21.00	2).00	2) 50						
Improved T-54	1000	3400	3400	3400	3450	4800	4800 25	4800 25	5200 800		
PT-76-Type						180	180	180	400		
Asslt.Gun-CX-1,] APC (BTR-60P-Tyr	L22rom								525		
-	•				7 50				3000		
THEATER TACTICAL MIS Launchers (FROG-Ty	Pe)						-		100		
HELICOPTERS									200		
Mi-4	18	180	180	180	260	330	220	220	530		
TRANSPORTS					200	330	330	330	510		
Light	359	630	630	630	630	005	OOF	005	005		
Medium	10	30	30	30	35	995 30	995 30	995 30	995 129		
<u>'TOTAL</u>	369	660	660	660	665	1025	1025	1025	1124		
TACTICAL AIR FORCES											
Fighter-Bombers FAGOT/MIG-15											
FRESCO/MIG-17					125	-					
FARMER/MIG-19					200 175				100 200		
FB-CX-1											
TOTAL					500				380		
LIGHT BOMBERS	-										
BAT/TU-2 BEAST/IL-10	25				1		W17 (EM				
BEAGLE/IL-28	10 130	30	30	110	110						
TOTAL	165	30	30	110	115						
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(Table 5 Cont.)

•		1966		1970	<u>)</u>	1				
			_A	В	С	D	A	В	С	D
ď	NAVAL FORCES							`		
•	Submarines SS-MV and S-1 SS-W SS-R SS-CX-1	7 24 4	7 24 10	7 24 10	7 24 12	7 24 12 1	4 24 12 2	4 24 12 2	3 20 12 10	3 24 12 16
.	SS-G (W-Conver- sion) TOTAL		41	41	43	1414	42	42	49	55
	Naval Aircraft BEAGLE/IL-28 BADGER/TU-16 RB-CX-1	100	20	20	80 4	80 14			30 24	30 24
-	Surface Ships Destroyers DD (Gordy Class) DD-CX-1	<u>т</u>	<u>4</u> 	<u>4</u>	4 1	4 1	4 	4	ĵ† ĵ†	14 14
 i	ASW Escorts DE (Riga Class) DE (Kiangnan Class) DE-CX-1	4 ass) 1 	4 3 	3	·4 3	4 3 1	14 3 2	4 3 2	4 4 6	1+ 1+ 5+
	Torpedo/Patrol Craft PC (Subchasers) PTG(Msl.Launching) PT/PTF/PF/PGM	26	30 2 300	30 2 300	36 8 360	36 4 360	30 10 300	30 10 300	36 36 360	36 20 360
 !	Minesweepers T-43-Type Other	15 5 9	19 59	19 59	27 59	27 59	35 44	35 44	70 44	70 44
	Amphibious ISM-Type	59	60	60	70	90	60	60	90	120
_	Misc.Nav.Ships & Cra	<u>ft</u> 440	460	460	475	475	485	485	600	600
	COASTAL DEFENSE CRUIS	e missile :	SITES				L			
	SS-CD-1-Type	3	3	3	8	5	5	5	28	10
-			1							

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III. GLOSSARY OF PROJECTED "CX" WEAPON SYSTEMS

This glossary defines the postulated, Chinese developed, weapon systems introduced in the alternative forces. All such systems have a "CX" designator for easy recognition, e.g., IRBM-CX-1.

STRATEGIC OFFENSIVE FORCES

Ballistic Missile Systems

- IRBM-CX-1 A storable; liquid-fueled missile designed for ranges of about 2000 nautical miles. This missile would be launched from a silo. It would probably be a follow-on to the SS-4-Type MRBM.
- ICBM-CX-1 A storable-liquid, long-range, follow-on to the IRBM-CX-1, also silo-launched.
- An improved diesel-propelled submarine, utilizing the Albacore-type hull, with 4 tubes for the same surface-launched missile as the G-class submarine. The improved hull design and propulsion plant would give this submarine a greater operating radius.
- SSBN-CX-1 A nuclear-propelled submarine using a hull similar to that of the SSB-CX-1 with 6 missile tubes for a new 600 mile, submerged-launched, missile.
- SS-N-CX-1 A 600 nautical mile missile designed for submerged launch from the SSBN-CX-1

STRATEGIC DEFENSIVE FORCES

Interceptors

- FI-CX-1 A Chinese-designed follow-on to the MIG-21 with improved high altitude and endurance characteristics.
- SA-CX-1 A Chinese-developed modification of the Soviet SA-2 system, incorporating improved guidance/homing and maneuverability.

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(Glossary, Cont.)

GENERAL PURPOSE FORCES

- DIV-CX-1 An infantry division fully modernized, incorporating major changes both in organization and equipment.

 This elite-type division would be considerably stronger than present units, particularly in firepower and mobility.
- FB-CX-1 A native-design fighter-bomber designed primarily for ground support. It is envisaged that this aircraft would be subsonic, but would have long endurance and high maneuverability.
- A torpedo-attack submarine with a new hull design and propulsion plant, providing improved maneuverability for submerged operation.
- A long-range reconnaissance aircraft resulting from the equipping of a standard commercial transport model with electronic reconnaissance systems.
- A native-designed destroyer, outfitted with ASW weapon systems, and with naval surface and AAA guns. These destroyers could carry the Chinese-produced SS-N-2 missile used on the OSA/KOMAR torpedo boat and in Force C would have a naval version of the SA-2 system as well, although these weapons are not postulated for this destroyer in the period through 1975.
- DE-CX-1 An ASW escort ship, smaller and slower than the destroyer, but with long endurance and good sea-keeping capabilities.
- ASSAULT GUN-CX-1,122 mm A 122 mm gun mounted on an amphibious, full-tracked chassis.

APPENDIX A

MAJOR CONTINGENCIES AND THEIR POSSIBLE EFFECT ON THE PROJECTED FORCES

General

There are obviously a wide variety of possible developments over the next ten years or so which might significantly affect Chinese military planning, such as changes in the relationship with the USSR, changes in the military position or alignment of countries like Japan or India, differing outcomes of the Vietnam conflict, changes in the strategic relationship between the US and the USSR, or variations in China's economic fortunes or in the availability of credits or assistance from other countries. We have generally avoided specific treatment of such contingencies in the above projections, not only because of a desire to keep the study within manageable proportions but also because of the sheer difficulty of defining possible developments or of assessing their likely effect on Chinese force planning with any precision. However, we have found it desirable to note the possible impact of certain critical contingencies below.

Possible Adverse Developments

Serious Worsening of Relations with the USSR.

This could have asvery significant effect on the development and

A-1

deployment of Chinese military forces, depending obviously on the seriousness of the rift and on the extent to which the USSR built up its military forces confronting China. Even if Soviet troop dispositions vis-a-vis China were relatively limited and intended to provide a demonstrable capacity for harassing or punitive action rather than for a serious invasion, it is possible to visualize Chinese requirements for, say, up to a dozen heavily armored and mobile divisions to cover major border crossings from the USSR and Outer Mongolia, for significant numbers of air defense interceptor and patrol units, and for at least limited numbers of MRBM's (or preferably IRBM's) which could be deployed for targeting of Soviet cities. Conceivably, there might eventually be a heavy troop buildup, especially in the Manchurian-maritime province area, comparable to the Soviet-Japanese troop buildup there during World War II. Such developments would, of course, significantly reduce the forces which could be deployed in other areas and would also be expected to influence the relative emphasis given the various kinds of forces and weapon systems.

Sizable Diversion of Resources to Support of the Vietnam War.

China's indirect participation in the Vietnam war has already involved the provision of substantial supplies of ammunition, POL, etc., to the DRV, the allocation of construction and other support troops to maintaining the LOC in North Vietnam, and the buildup of air defense facilities

and forces in South China. The intelligence community's present judgment is that this does not involve a significant diversion of resources from China's military establishment. Conceivably, however, support of the DRV and precautionary deployments of Chinese combat forces in nearby areas could increase to a point which would require diversion of equipment and reserve supplies from other units. Indeed, the Chinese effort in support of the DRV, or in preparation for contingencies that might grow out of the Vietnam war, could become so large as to force a slowdown in the modern weapons program or a significant weakening of China's over-all military posture.

Increased Military Assistance Requirements

The Chinese Communists will presumably continue to supply military advice, training, and materiel to friendly regimes and revolutionary movements in various parts of the world. For the most part, this type of activity does not appear likely to cut very heavily into Chinese military resources; the principal requirement will probably continue to be for small arms and similar equipment, and the number of governments or revolutionary movements in places like Africa and Latin America which are willing and physically able to accept Chinese arms is unlikely to be very great. It appears likely that most such programs could be supported with surplus weapons made available through the re-equipping of Chinese Communist general purpose forces. The only exception involves the kind of equipment

furnished Pakistan. If the Chinese Communists should undertake to furnish Pakistan or other parties with tanks, aircraft and other major items in substantial quantities, it could significantly affect their own military buildup.

Economic Setbacks.

Finally, the Chinese may well fall short of fulfilling in toto the generally optimistic assumptions we have made about their economic and technological prospects. Indeed they may run into another series of disastrous growing seasons or grossly mismanage the situation as they did in the late 1950's and early 1960's. The extent and military programming implications of such setbacks, however, are virtually unpredictable.

Possible Favorable Developments

Accelerated Economic Progress

The possibility that the Chinese economy might perform considerably better than predicted, thus making important additional sums available for military use, appears remote. The judgment that the Chinese could afford to let military procurement costs grow at the vigorous rate postulated for Forces B, C, and D is predicated on a series of highly favorable assumptions: that food production grows faster than population, that foreign trade grows by some 5-10 percent a year, that the regime will

A-4

make effective use of its resources in expanding industrial output. This requires not only good fortune but a degree of moderation and managerial judgment which the Chinese leadership has shown little disposition to practice even on its best behavior.

Conceivably, unusually favorable growing conditions might make possible a bumper crop year -- perhaps of sufficient magnitude to permit a substantial cutback in that year's requirement for imported foodgrains, which have been costing about \$400 million annually in recent years. However, the chances that food production could be pushed up much faster than population growth in any one year appear poor and the possibility that this might happen more than once during the next ten years even more so. And even if the Chinese experienced such good fortune, they might feel compelled to spend the money on foodstuffs anyway -- either to build their depleted grain reserves or to help restore pre-Great Leap Forward levels of individual food consumption.

Increased Access to Free World Credits and Technology.

Although much of the rapid growth in Chinese trade with the free world during the last two years was a one-shot phenomonen, representing the reorientation of much of China's trade away from the Bloc, trade with the free world will probably continue to grow -- and along with it, credits. Industrialists in both Japan and Western Europe have been

eyeing the Chinese market with increasing interest, with China's acute need for modern machinery providing an area of special appeal. While this study has not specifically projected foreign trade and credits as a factor in China's ability to sustain military programs, it has assumed that such trade would grow by about 5-10 percent.

It is conceivable that China might over time obtain substantially greater amounts of manufacturing equipment and accompanying technological assistance on credit, thereby contributing at least indirectly to its industrial and technological capabilities in the military field. However, there would appear to be two major limitations on how much assistance the Chinese might obtain in this fashion. Large-scale industrial and technological assistance would require a far more open attitude on the part of the Chinese themselves, who have thus far been reluctant to admit foreign technicians or to take on long-term obligations. Perhaps more important, China's ability to pay off the credits which might be offered is limited -- at least unless Japan or other potential creditors were willing to provide assistance on very long-term, easy credit terms such as those being provided to India, in whose case political rather than financial considerations were primarily responsible for provision of the assistance. If credits to China were limited to the short and medium term -- i.e., up to 5 years -- credit drawings would very quickly be balanced off by repayment requirements.

Conceivably, France or some other non-Communist country might be

willing to supply China with equipment or parts of at least indirect military application.

Marked Improvement in Relations with the USSR

Despite the intense bitterness of present Sino-Soviet relations, the possibility of some future rapproachement between a successor regime in Peiping and the USSR cannot be ruled out completely. Such a rapproachement, should it occur, could be of considerable benefit to the Chinese military effort, since it could open the way to resumption of some forms of direct military assistance and technological advice by the Soviets. On the other hand, there would almost certainly continue to be major limitations on how much the Chinese could obtain. If past practice is any guide, the Soviets would be unwilling to provide any more in either economic or military aid than the Chinese could pay for, although they might be willing to extend long-term credits and to permit payment in goods. Moreover, it appears most unlikely that even a marked change of heart on the part of the Chinese would permit establishment of a genuinely cordial relationship or that the Soviets -- however convinced they might be of the bona fides of a particular set of new Chinese leaders -- would be willing to rule out all possibility of a return to the type of leadership provided by Mao. Presumably they would be extremely careful about assisting the Chinese in ways which would increase their ability to threaten the USSR or increase their ability to drag the USSR into conflict with others.

APPENDIX B

ECONOMIC AND COST ANALYSIS USED IN DEVELOPMENT OF THE ALTERNATIVE FORCES

SECTION I. METHODOLOGY

Introduction

The present Chinese leadership has clearly been willing and able to deprive the civilian economy of substantial resources in order to maintain the ambitious array of military programs it is now trying to carry forward. However, there are important limits as to how far the regime can go in this direction on a sustained basis. A central problem in formulation of the alternative forces projected above has occurred accordingly been that of developing and applying realistic economic and cost constraints.

In dealing with this problem, we have adopted a relatively simplified approach, in the belief that there is not enough certainty either about performance to date or about the future to warrant very elaborate or highly sophisticated calculations of what the Chinese economy can bear. In this approach we began with three basic concepts:

1. Present levels of spending for military purposes should provide the most practical and realistic yardstick for measuring the pose sible future magnitude of the military effort. This concept says that the starting point should be what can be observed; the best indicator of the future is the present. In a sense, it says that the Chinese can do what they have done and that we can project from such a base. Moreover, theoretical considerations (such as would be involved in determining the burden of military expenditures on the economy) which require more detailed knowledge can be by-passed.

- 2. The basic calculations, at least this time, should be made in dollars rather than yuan -- in other words, with both present and projected future military hardware programs measured in terms of what it would cost to carry them out in the US. Although we would hope that projected forces could eventually be costed in both dollars and yuan, we do not as yet have any idea of how much the Chinese charge themselves for the more complicated and modern items of military hardware which are of greatest concern to the US or of how accurately such Chinese "prices" would reflect actual costs. The use of dollar costing of course does contain possibilities for biases of certain kinds; China is manifestly not the US. However, many of these distortions would tend to cancel out, since the same costing factors would be used for the base period and for projected future forces. As indicated below, others can be adjusted for.
- 3. The costing exercise should be concerned solely with expenditures for development and procurement of military hardware and should not attempt to cover other military expenses, such as the costs of clothing and feeding China's large existing forces. This concept was adopted for several reasons. Many military expenses are more or less

irrelevant to the problem of how far and how fast the Chinese can go in building a modern military establishment. The critical items are those involved in development and production of military hardware. It is here that the competition for scarce resources between the military establishment and the civilian economy and among various military programs is and will continue to be most severe. Covering the entire range of present and possible future military expenditures would, at this stage, only introduce opportunities for error. Finally, an attempt to price the cost of maintaining present Chinese forces in dollar terms -- i.e., charging for a Chinese rifleman as though he were a US soldier -- would give a misleading impression of over-all costs. Although cost projections concentrating on hardware do not give a complete picture of total military expenditures, they do provide, in our view, the most realistic approach at present to the problem of economic constraints.

The application of these concepts has involved three stages of analysis: (a) the determination of expenditure figures for development and production of military hardware for 1965 and preceding years; (b) the determination of the maximum rate at which such expenditures might be expected to grow under the optimum conditions assumed in developing Forces B, C, and D; and (c) the pricing of the components tentatively assigned to each of the projected forces and the adjustment of the size and makeup of these forces to make them compatible with the cost ceilings assigned to them. The tasks basic to this analysis are discussed in the two sections that follow.

Determination of Present Levels of Expenditure

The first basic task was that of costing present programs for development and production of military hardware. Cost figures were built up incrementally on a system-by-system (or in some cases factory-by-factory) basis. Incremental costing was used in order to reproduce as faithfully as possible the actual pattern of expenditures. We were able to account for tooling costs in this manner but not the costs of basic plant and equipment.

These calculations were made both for the base year 1965 and for the period extending back to the mid-1950's, when a significant proportion of military procurement outlays represented end items or major components (e.g., for aircraft) imported from the USSR for assembly in China. The purpose of building up these historical cost series was twofold: to facilitate the allocation of costs to the year in which they were probably extually incurred, and to provide a basis for judging how well our military cost projections fitted with other indications of how the Chinese economy and military establishment fared during the ten years between 1956 and the present and how well 1965 performance appeared to represent Chinese capabilities.

The results are summarized in Table 6,* which shows that expenditures for military hardware-associated purposes totalled \$1.8 billion in 1965, and in Table 7,** which projects costs for these purposes back to 1956.

On the whole we believe these results are reasonable approximations of

^{*} Page B-5

TABLE 6. CHINESE COMMUNIST HARDWARE-ASSOCIATED OUTLAYS, 1965 (Billion 1963 US Dollars)

PROCUREMENT

Land Armaments Ammunition	0.14 0.12
General Purpose Vehicles	0.06
Naval Ships	0.08
Aircraft Missile Sestoms	0.13 Neg. <u>a</u> /
Missile Systems Other Electronic Equipment	Neg. <u>a/</u> 0.50 <u>b</u> /
Organizational Equipment	0.05
Subtotal	1.1 c
SPARE PARTS	<u>o.43</u>
Of which for Other Electronic Equipment	0.17
NUCLEAR PRODUCTION AND FACILITIES	<u>0.10</u> <u>d</u> /
RDT&E (Including Nuclear)	0.20
TOTAL	1.8 c/

a/ 0.005 or less.

b/ All electronic equipment except for that included as integral part of other systems or programs.

c/ May not add because of rounding.

d/ Excluding RDT&E.

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TABLE 7

	CHINESE COMMUNIST HARDWARE-ASSOCIATED OUTLAYS, 1956-65 2/										
				(B1111	on 196	3 US D	ollars)			
	<u> 1956</u>	<u>1957</u>	<u>1958</u>	<u>1959</u>	1960	1961	1962	1963	1964	<u> 1965</u>	
PROCUREMENT											
Land Armaments ChiCom Imports	0.14 0.06 0.08		0.18 0.07 0.11	0.27 0.08 0.20	0.16 0.10 0.06	0.07 0.07	0.07	0.09	0.10	0.14	
Ammunition ChiCom Imports	0.08 0.04 0.04	0.08 0.04 0.05	0.10 0.04 0.06	0.12 0.06 0.06	0.12 0.08 0.04	0.05	0.06	0.07 0.07	0.09	0.12	
Gen'l. Purp. Vehicles ChiCom Imports	0.03 Neg. 0.02	0.06 0.02 0.03	0.06 0.04 0.03	0.08 0.04 0.03	0.08 0.04 0.03	0.02	0.02	0.04	0.06	0.06	
Naval Ships ChiCom Imports	0.13 0.12 0.01	0.15 0.14 0.01	0.18 0.17 0.01	0.21 0.20 0.02	0.14 0.13 0.01	0.10 0.08 0.01	0.04	0.04	0.09	0.08	
Aircraft ChiCom Imports	0.34 0.02 0.32	0.23 0.01 0.22	0.16 0.06 0.10	0.13 0.09 0.04	0.21 0.19 0.02	0.04 0.02 0.02	0.09 0.02 0.07	0.10 0.01 0.10	0.12 0.03 0.08	0.13 0.13	
Missile Systems ChiCom Imports	==	===	==	0.01 Neg. 0.01	0.02 Neg. 0.02	Neg.	Neg.	Neg.	Neg.	Neg.	
Other Electronic Eqp.b/ ChiCom Imports	 -		0.03 0.02 0.01	0.07 0.05 0.02	0.17 0.12 0.05	0.20	0.38 0.38	0.38 0.38	0.46 0.46	0.50 0.50	
Organizational Equip. ChiCom Imports	0.04 0.01 0.02	0.04 0.02 0.02	0.04 0.02 0.02	0.04 0.02 0.02	0.04 0.02 0.02	0.02	0.04	0.04	0.04	0.05 0.05	
Subtotal: Procurement ChiCom Imports	0.75 0.25 0.50	0.71 0.30 0.42	0.76 0.41 0.35	0.94 0.54 0.40	0.95 0.69 0.26	0.49 0.46 0.03	0.69 0.62 0.07	0.77 0.67 0.10	0.96 0.88 0.08	1.1	
SPARE PARTS Of which for Other Elec. Equipment b	0.16	<u>0.18</u>	0.21 Neg.	0.25	0.30	0.22	0.25	0.36 0.15	<u>0.38</u> 0.15	0.43	
NUCLEAR PROD. & FACIL. ChiCom Imports	0.02 0.01 0.01	0.05 0.02 0.02	0.07 0.04 0.04	0.09 0.04 0.04	0.10	0.07	0.07	0.07 0.07	0.08	0.10 0.10	
RDT&E (Including Nuclear) ChiCom Imports	0.05 0.04 0.01	0.07 0.05 0.02	0.10 0.08 0.02		0.20 0.15 0.05	0.10 0.10	0.10	0.13	0.15	0.20	
TOTAL	1.0	1.0	1.1	1.5	1.5	0.9	1.1	1.3	1.6	1.8	
ChiCom Imports	0.35 0.63	0.44 0.57	0.63 0.51	0.88 0.60	1.1	0.81	1.0 0.09	1.2 0.10	1.5 0.08	1.8	

a/ Components may not add to totals shown because of rounding. Neg. used when 0.005 or less.
b/ All electronic equipment except for that included as integral part of other systems or programs.

programs.

Production and imports in 1956-57 were small and did not exceed requirements for other systems and programs.

the actual state of affairs.

Although we have had to make some arbitrary judgments as to the timing of payments to the USSR for military hardware, the cost projections for the historical period appear to fit reasonably well with the general picture we have of an ambitious and many-faceted military development program. This program swas begun with Soviet help in the middle and late 1950's, slowed after the Soviet withdrawal, but is now going forward vigorously again. The \$1.8 billion in hardware expenditures for 1965 compares favorably with the \$1.5 billion projected for 1959 and 1960 respectively, which included the costs of material imported from the USSR. This indicates that in a gross sense the Chinese are by now doing better on their own than they were doing at the end of the 1950's with Soviet help. It should be noted, however, that much of the estimated 1965 expenditures represented the output of the relatively advanced electronics industry and the production of ammunition and spare parts for the existing military establishment, with many of the other major elements of military industry still at the preproduction or early production stages.

Determination of Maximum Growth Rates*

The second basic task was the determination of optimum growth rates for the high-side forces. This required quantification of Assumptions 1 and 2 (see p. 7 and 8, respectively): what would constitute a con-

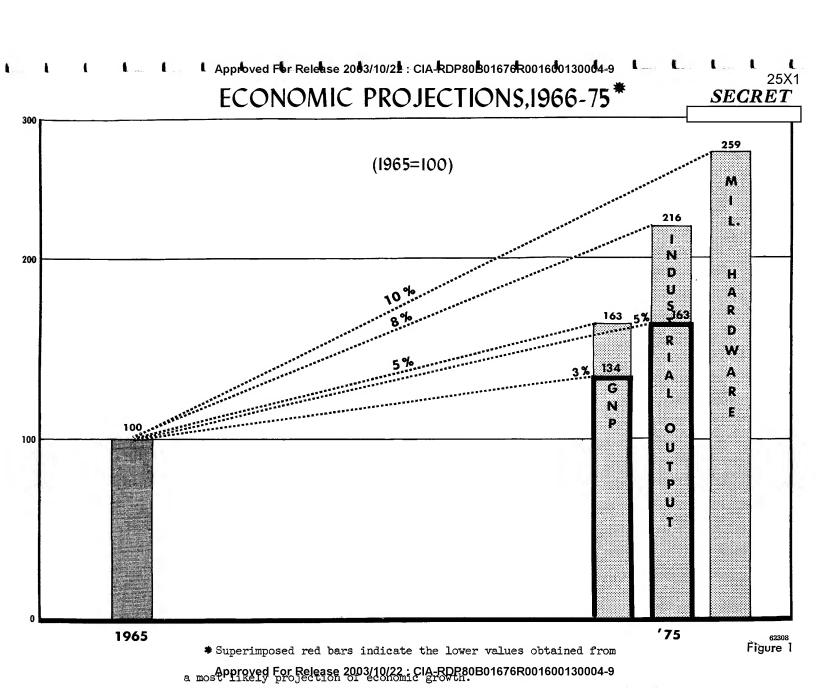
^{*} Rates of growth for the Chinese economy are based on calculations in yuan.

siderable degree of economic success and what proportion military hard=
ware programs would be able to absorb. As a point of departure, we had
calculations by the Office of Research and Reports, CIA,* to the effect
that a most likely projection for China's economy would be for GNP to
grow by as much as 3 percent a year and industrial output by some 5 to
6 percent, assuming average growing conditions for crops and increasing
access to Japanese and Western technology over the next decade. In addition, ORR indicated that an optimistic projection would show a rate of
growth for GNP of as much as 4-5 percent and for industrial output of as
much as 7-8 percent. Unusually favorable conditions would be required,
such as agricultural output growing more rapidly than population, greater
access to foreign trade and credits, good management, no further increase
in the military share of the economy's resources; and political stability.

In order to insure that Forces, B, C, and D were indeed high-side forces reflecting optimum economic circumstances, we took the high side of the economic projections and assumed that industrial output as a whole would increase at an average rate of 8 percent a year. Because the focus of our efforts is on hardware programs, the machinery sector of industry

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^{*} See pp 35-36, ER 65-32, Economic Prospects for Communist China, December 1965, SECRET, for the basic discussion. In reviewing these calculations in April 1966 ORR was more categorical in characterizing a GNP growth rate of as much as 3 percent as the most likely case and the higher rates of GNP and industrial growth here cited as being optimistic.



is of most interest. Consequently, we allowed for the possibility that the machinery sector might grow at a different rate than the rest of industry. We chose 10 percent as a suitable rate of growth for this sector, with the intent of erring on the high side. Although it is certainly possible that machinery output will grow more than total industrial output (and in such case the relationship of 10 percent to 8 percent is a reasonable one), the past history of China suggests otherwise. Both during the 1952-57 period and in the period of recovery since 1961, machinery output grew at about the same annual average rate as total industrial output. The 10 percent rate (in yuan terms), therefore, was used as the constraining rate for the growth of military hardware, **

Then, because we found it necessary to work in dollar terms, account had to be taken of the fact that costs of moving to technologically more advanced systems are relatively greater for lesser developed economies like that of China than for advanced ones like that of the US. This factor would make our calculation of the dollar costs of the postulated Chinese forces -- i.e., the costs of duplicating them in the US -- progressively understate the growth of costs of advanced military programs to China. For this reason, we adjusted the average annual rate of growth for military hardware from 10 percent in yuan terms to 7.2 percent in dollar terms. At this rate annual expenditures would double in ten years.

^{*} These differential rates of growth would result in military industry accounting for an increasing share of GNP over time, as Figure 1, below, indicates.

This rate of 7.2 percent was then applied to the 1965 base in developing cost ceilings for Forces B, C, and D. A faster rate of increase for short periods of time is possible. However, if the Chinese are going to optimize for the 10-year period, i.e., have the resources to carry out present programs and develop the resources that would be required for future programs, they would not be able to exceed a rate of this magnitude on a sustained basis even with the optimistic assumptions made about economic and technological performance.

As an additional check we then calculated how sensitive these percentages would be to gross error in calculation of the 1965 base -first assuming that expenditures for development and production of military hardware in that year were in fact 25 percent lower than we had calculated, then assuming that they were 25 percent higher. In the former case, if the actual expenditures in the base year were overstated by 25 percent, the calculations for Forces B, C, and D would provide for a growth rate of 8.8 percent rather than the 7.2 percent it was supposed to represent. In the latter case, if actual expenditures in 1965 were understated by 25 percent, the calculations for Forces B, C, and D would provide for a growth rate of 6 percent -- i.e., a rate still somewhat above that associated with the most likely rate of growth of the Chinese economy. The 1965 estimates probably do underestimate to some degree actual expenditures for development and production of military hardware, mainly because of the difficulties of breaking out all of the expenditures involved

in setting up military production. We think it most unlikely, however, that any such understatement is more than a modest fraction of 25 percent.

We also made some calculations to test the sensitivity of the 7.2 percent growth rate used to project annual rates of increase in spending for military hardware as they would appear in dollar terms. Here again the results indicated that our calculations would have to be very grossly in error to make any major difference in the final results. If the figure used should have been 8 percent -- implying a still higher basic growth rate, an incorrect adjustment for changing dollar-yuan cost relationships, or a combination thereof -- the cumulative outlays for the 10-year period would be only 5 percent higher, and most of this increase would come in the last few years. If the dollar growth rate used should have been 9 percent (which would be an error of 25 percent), cumulative outlays would be 11 percent higher, with most of the increase again coming after 1970. It would require a drastic and highly improbable compounding of gross error in the base year figures as well as in the assumed yuan growth rates and in the dollar-yuan conversion adjustment -- to produce any markedly higher cumulative totals.*

^{*} An increase in 10-year costs by some 50 percent over that assumed here, for example, would require that base year expenditures be understated by 25 percent, that the output of military machinery was growing by 12 percent, and that the change in dollar-yuan costs was grossly overstated. It might be noted that the assumed theoretical rate of growth for Forces B, C, and D was substantially exceeded for the period 1966-70, with the weapon systems attributed to these forces calling for expenditures to grow by 7.9 to 8.7 percent a year.

Projecting Future Costs

The projected alternative forces were costed out by means of the same methods and costing factors used to establish 1965 development and procurement costs. Equivalent US costs for the Soviet versions of the equipment projected for the Chinese were applied on a system-by-system or item-by-item basis. These costs were then totalled for each of the projected forces, which were then expanded or reduced in size to make them reasonably consistent with the over-all cost constraints applicable to them. In some cases individual procurement programs were stretched out so as to avoid an undue piling up of costs for a given year. It was assumed, however, that some variations in rates of expenditure would take place under the best of circumstances, and that an attempt to make the computed cost projections match postulated cost levels exactly would be unrealistic.

In general, the calculated costs of the alternative forces as worked out to date run somewhat above the postulated figures, especially for the period through 1970. Even with the numerous constraints built into it, Force A's rate of spending for military hardware, instead of remaining unchanged at the 1965 level, increases by an average of 2.3 percent a year for the 1966-70 period. During this same period, the military development and procurement depicted in Forces B, C, and D would require outlays to grow at annual average rates of 8.7, 7.9, and 8.0 percent respectively. For the 1971-75 period, the calculated costs of the forces grow more slowly, reducing the 10-year average annual growth

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rate of Force A hardware spending to 2.1 percent and those for Forces B, C, and D to 6.3, 6.3, and 7.2 percent respectively -- below the postulated 7.2 percent rate for Forces B, and C. However, this falling off in the growth of military hardware expenditures for the 1971-75 period probably reflects an underestimation of likely RDT&E and electronics expenditures which, as indicated below, owere projected on a very conservative basis. Thus by 1975 the actual costs of hardware for the military establishments called for under Forces B and C would probably be running at \$3.6 billion a year or more, rather than at \$3.4 billion (shown in Table 8* and Figure 2**, below). Force D already at \$3.6 billion would necessarily go even higher.

With respect to specific cost calculations, ground force equipment (land armaments) and ammunition were priced on a flat unit cost basis and allocated to the years in which they were procured. In the case of aircraft and missiles, however, allowance was made for preproduction costs such as tooling up and for the learning function, whereby the costs of turning out a particular item of equipment progressively decline as those producing it gain in experience. These costs were allocated on the basis of production schedules worked up in terms of normal leadtime relationships (e.g., the time between initiation of aircraft production and first rollout). Aircraft production was assumed to precede entry into order of battle by a year but the presentation of order of battle on a midyear basis has in effect reduced the lead to six months. As appropriate, missile site construction, launcher production, and missile production

^{*} B-14

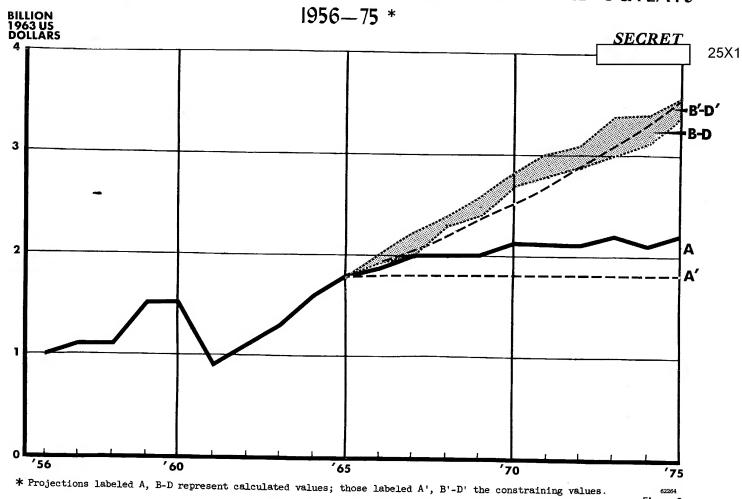
^{**} B-15

TABLE 8. PROJECTED HARDWARE-ASSOCIATED OUTLAYS, 1965-75 (Billion 1963 US Dollars)

F	ORCE	1965	<u>1966</u>	<u> 1967</u>	<u>1968</u>	<u> 1969</u>	<u>1970</u>	<u>1971</u>	<u> 1972</u>	<u>1973</u>	<u> 1974</u>	<u>1975</u>
	A	1.8	1.9	2.0	2.0	2.0	2.1	2.1	2.1	2.2	2.1	2,2
	В	1.8	2.0	2.2	2.4	2.6	2.8	3.0	2.9	3.0	3.1	3.4
	C	1.8	2.0	2.2	2.4	2.6	2.7	2.9	3.0	3.1	3.2	3.4
	TD	1.8	2.0	2.2	2.3	2.4	2.7	2.8	3.1	3.4	3.4	3.6

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CHINESE COMMUNIST MILITARY HARDWARE - ASSOCIATED OUTLAYS



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Figure 2

were phased and costed separately. Costs of naval ships were prorated equally over the construction cycle, assuming that the period between initiation of construction and operational deployment would be three years for submarines, two years for larger surface ships, and one year for smaller craft.

Four special series warrant special mention:

- a. Other Electronic Equipment. Total military electronic production through 1965, the largest part of which was for ground-based air warning and control radar, was calculated separately from industrial and other data. In the case of Force A it was assumed that total electronics production would remain at the 1965 level, but that increasing portions of this output would be absorbed by air, sea and missile systems incorporating electronic gear and by requirements for electronic spare parts, so that the residual entry for Other Electronic Equipment would decline over time. For Forces B, C, and D it was assumed that total electronic production would have to increase to take care of the increased requirements for electronic gear integral to other systems but that the totals for Other Electronic Equipment would remain at the Force A level. These are conservative assumptions, especially for the last three forces.
 - b. Research, Development, Test and Evaluation. RDT&E had to be projected on the basis of very scanty evidence and is another major item which has probably been understated. Because of the conservative assumptions we have made about future RDT&E requirements, the extent to which it will preempt scarce resources which might otherwise be

at least equally understated. In brief, we have assumed that in the case of Force A these expenditures, now calculated to be about 10 percent of the military hardware budget, would grow modestly and only at the end of the period. In the case of Forces B, C, and D we have allowed RDT&E expenditures to grow at about the same pace as over-all hardware costs -- i.e., approximately doubling -- with that for Force B rising somewhat more than the others in recognition of the new and expensive systems postulated for that force. Given the need to accelerate RDT&E as the Chinese shift from Soviet-design items and attempt to develop new and more advanced systems of their own, actual RDT&E costs would probably come considerably higher. Projected levels of RDT&E for the intermediate years were adjusted where necessary to reflect the RDT&E requirements for support of specific postulated weapon systems.

c. Spare Parts. These were calculated as percentages of inventory value and are consistent with per man factors and the specific systems estimates developed for Soviet costing. However, except for Other Electronic Equipment, it was assumed both for the base year and for the years immediately following that Chinese parts supply levels were below those for the USSR. For elements given special emphasis in the projected forces (e.g., air defense in Force C) the level of spares was increased to the Soviet level by the end of the period. Otherwise, the lower rates were continued.

d. Organizational Equipment. This is a residual category designed to encompass engineering equipment, special training equipment, and the like. Both for the base year 1965 and for the projections, this was assumed to be five percent of other procurement rather than the higher per man factors used in projections of Soviet forces, to take account of the generally lower level of equipping of Chinese forces. This may understate the case somewhat but since this figure is used for the base year 1965 as well as for the projections, any resulting distortions tend to cancel each other out.

SECTION II. PROJECTED COSTS

Force A

The projected costs for Force A are presented in Table 9*. Generally, they reflect the posited continuation of programs currently observed or believed to be under way, but at a moderate pace given the constraint that outlays should remain at the 1965 level. It is evident, however, that some increase has been permitted. This averages 2.1 percent a year for the 10-year period.

The costs of aircraft (MIG-19, MIG-21-type, and the TU-16) provide most of the increase in outlays through the mid-years of the period. By the late years, when requirements for existing or imminent programs have been largely fulfilled, the level is maintained by an increase in outlays for RDT&E which is associated with the postulated programs for the post-1975 period and by the growing requirement for spare parts.

^{*} Page B-19

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TABLE 9

PROJECTED HARDWARE-ASSOCIATED OUTLAYS FOR FORCE A, 1966-75 &/ (Billion 1963 US Dollars)

	<u> 1966</u>	<u> 1967</u>	<u> 1968</u>	<u> 1969</u>	1970	1971	<u> 1972</u>	<u>1973</u>	1974	<u>1975</u>
PROCUREMENT										
Land Armaments <u>b</u> / Ammunition	0.14 0.12	0.16	0.16	0.18	0.17	0.18 0.14	0.18 0.14	0.13 0.14	0.10	0.11
General Purpose Ve- hicles	0.06	0.6	0.06	0.06	0.06	0.08	0.08	0.08	0.08	0.08
Naval Ships Aircraft	0.08 0.23	0.06 0.24	0.05 0.26	0.05 0.29	0.07 0.30	0.08	0.12 0.24	0.12	0.12	0.12
Missile Systems Other Elec.Eqpt.C/ Organizational Eqpt.	Neg. 0.44 0.06	0.02 0.40 0.06	0.04 0.36 0.06	0.02 0.32 0.06	0.05 0.29 0.06	0.08 0.26 0.06	0.09 0.24 0.06	0.08 0.21 0.06	0.08 0.19 0.06	0.05 0.18 0.06
Subtotal	1.1	1.1	1.1	1.1	1.1	1.1		1.1		1.0
SPARE PARTS	0.48	0.53	0.57	0.62	0.66	0.69	0.73	0.76	0.81	0.84
Of which for Other Electronic Eqpt.	0.22	0.26	0.29	0.32	0.35	0.37	0.40	0.42	0.43	0.44
NUCLEAR PRODUCTION AND FACILITIES d	0.10	0.10	0.08	0.08	0.08	0.08	0.08	0.08	0.08	80.0
RDT&E (Including Nuclear)	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.25	0.30	0.35
TOTAL	1.9	2.0	2.0	2.0	2.1	2.1	2.1	2.2	2.1	2.2

b/ Includes AAA for air defense.

d/ Excluding RDT&E.

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a/ Components may not add to totals shown because of rounding. Neg. used when 0.005 or less.

All electronic equipment except for that included as integral part of other systems or programs. Total military electronics production has been projected at the 1965 level. Hence, the decline in this series is a reflection of the increase in electronics integral to other systems and the increased requirement for spare parts.

Force B

The projected costs for Force B are presented in Table 10.* They reflect the emphasis placed on strategic offensive systems, other programs being carried at the same level as for Force A.

Most of the increase in procurement costs through the mid-years of the period reflect aircraft programs (particularly a TU-16, BADGER-type) and to a lesser extent missile programs (MREM, SS-4-type). Their role is reversed in the later years when missile costs predominate (IREM, SS-5-type and ICEM, SS-7-type). However, costs of naval ships also sharply increase with the projected construction of the SSB-CX-1 and an SSBN-CX-1.

The other hardware-associated programs all show appreciable increase, Costs of spare parts steadily increase as the inventory of strategic offensive weapon systems rapidly expands. The nuclear program, because of the enlarged requirement for weapons to go with the projected delivery systems, reflects a doubling of facilities. The costs of RDT&E display a comparable rate of increase for the related reason that the new delivery systems and weapons would have to be developed largely with indigenous technological resources.

^{*} Page B-21

TABLE 10

PROJECTED HARDWARE-ASSOCIATED OUTLAYS FOR FORCE B, 1966-75 a/ (Billion 1963 US Dollars)

	<u> 1966</u>	<u> 1967</u>	<u> 1968</u>	<u> 1969</u>	<u>1970</u>	1971	1972	<u>1973</u>	1974	1975
PROCUREMENT										
Lend Armaments b/ Ammunition	0.14 0.12	0.16 0.12	0.16 0.12		0.17 0.12			0.13 0.14	0.10	0.11 0.14
General Purpose Ve- hicles Naval Ships Aircraft Missile Systems Other Elec.Eqpt.c/ Organizational Eqpt. Subtotal	0.06 0.09 0.24 0.03 0.44 0.06 1.2	0.06 0.10 0.28 0.03 0.40 0.06 1.2	0.06 0.10 0.42 0.11 0.36 0.06 1.4	0.06 0.11 0.50 0.19 0.32 0.08 1.6	0.06 0.12 0.51 0.24 0.29 0.08 1.6	0.08 0.14 0.41 0.37 0.26 0.08 1.7	0.08 0.15 0.14 0.41 0.24 0.08 1.4	0.08 0.14 0.17 0.45 0.21 0.08 1.4	0.08 0.12 0.17 0.55 0.19 0.08 1.4	0.08 0.16 0.23 0.71 0.18 0.08 1.7
SPARE PARTS	0.49	0.55	0.61	0.68	0.73	0.79	0.85	0.91	0.96	1.0
Of which for Other Electronic Eqpt.	0.22	0.26	0.29	0.32	0.35	0.37	0.40	0.42	0.43	0.44
NUCLEAR PRODUCTION & FACILITIES Q/	0.12	0.14	0.15	<u>0.16</u>	<u>0.18</u>	0.20	0.21	0.22	0.22	0.23
RDT&E (Including Nuclear)	0.25	0.25	0.25	0.25	0.30	0.38	0.45	0.45	0.45	0.45
TOTAL	2.0	2.2	2.4	2.6	2.8	3.0	2.9	3.0	3.1	3.4

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a/ Components may not add to totals shown because of rounding.

b/ Includes AAA for air defense.
c/ Same as for Force A. See Table 9, p. B-19. Total electronics production increases somewhat for this Force, however, because of the greater amount of electronics integral to other systems.

d/ Excluding RDT&E.

Force C.

The projected costs for Force C are presented in Table 11.* They reflect the emphasis placed on defense of the Chinese mainland -- hence on strategic defensive systems and naval elements of the general purpose forces. Other programs have been projected at the same levels as for Force A.

Costs of aircraft (MIG-19 and MIG-21-type) provide the major increment to growth of procurement outlays through 1970, with substantial help from the costs associated with naval programs (particularly MSF's and the early construction of the SS-CX-1 torpedo-attack submarine) and missile systems (SA-2-type and the MREM, SS-4-type). After 1970, the costs of naval ships continue to display uninterrupted growth, as do the costs of ammunition at a somewhat lower level, whereas the other major hardware series become more irregular as programs are completed and new ones are phased in.

The other hardware-associated costs all show appreciable increase. Costs of spare parts increase as the inventory of equipment undergoes substantial growth. The nuclear program increases in the latter part of the period, as capacity is enlarged in anticipation of greater weapons requirements later in the decade. Costs of RDT&E double, most of the increase occurring after 1970 as more self-developed programs are postulated.

^{*} Page B-23

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TABLE 11

PROJECTED HARDWARE-ASSOCIATED OUTLAYS FOR FORCE C, 1966-758/ (Billion 1963 US Dollars)

	1966	<u> 1967</u>	<u> 1968</u>	<u> 1969</u>	1970	<u> 1971</u>	1972	<u>1973</u>	<u> 1974</u>	<u> 1975</u>
PROCUREMENT										
Land Armamentsb/ Ammunition General Purpose Vehicles Naval Ships Aircraft Missile Systems Other Electronic Equipmentc/ Organizational Equipment Subtotal	0.14 0.12 0.06 0.09 0.27 0.02 0.44 0.06 1.2	0.16 0.12 0.06 0.11 0.31 0.05 0.40 0.06 1.3	0.18 0.12 0.06 0.13 0.35 0.15 0.36 0.06 1.4	0.18 0.13 0.06 0.15 0.45 0.16 0.32 0.07	0.17 0.14 0.06 0.20 0.46 0.20 0.29 0.08 1.6	0.18 0.14 0.08 0.26 0.40 0.21 0.26 0.08 1.6	0.18 0.15 0.08 0.31 0.44 0.17 0.24 0.08 1.6	0.16 0.16 0.08 0.36 0.43 0.19 0.21 0.08 1.7	0.14 0.16 0.08 0.38 0.35 0.25 0.19 0.08 1.6	0.14 0.16 0.08 0.37 0.50 0.23 0:18 0.08 1.8
SPARE PARTS	0.49	0.56	0.64	0.71	0.77	0.84	0.90	0.96	1.0	1.1
Of which for Other Electronic Equip.	0.22	0.26	0.29	0.32	0.35	0.37	0.40	0.42	0.43	0.44
NUCLEAR PRODUCTION AND FACILITIES	0.10	0.10	0.10	0.10	0.10	0.12	0.14	0.15	0.16	0.18
RDT&E (Including Nuclear)	0.25	0.25	0.25	0.25	0.25	0.30	0.30	0.30	0.35	0.40
TOTAL	2.0	2.2	2.4	2.6	2.7	2.9	3.0	3.1	3.2	3.4

d/ Excluding RDT&E

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25X1

 $[\]underline{a}$ / Components may not add to totals shown because of rounding. \underline{b} / Includes AAA for air defense.

c/ Same as for Force A. See Table 9, Page B-19.Total electronics production increases somewhat for this Force, however, because of the greater amount of electronics integral to other systems.

Force D.

The projected costs for Force D are presented in Table 12.* They reflect the emphasis placed on the ground and naval elements of the general purpose forces. Strategic offensive and defensive programs are carried at the levels projected for Force A.

The early increase in procurement costs again is largely a function of interceptor aircraft, but by the mid-years some of these costs are attributable to tactical air and increasingly so in the late years of the period. A similar pattern holds for missile costs -- the costs are initially dominated by the MREM program but later on are increasingly for such general purpose systems as a SAGGER-type anti-tank missile and a FROG-type surface-to-surface rocket. However, it is the other series -- land armaments, ammunition, general purpose vehicles, and organizational equipment -- all of which are predominantly general purpose in nature, that establish the basic pattern of steady increase of procurement costs throughout the period.

The other hardware-associated outlays also increase throughout the period. Costs of spare parts increase as the postulated programs would substantially increase equipment inventories. Nuclear costs are projected at the same levels as for Force C -- the projected tactical nuclear delivery systems would require amounts of nuclear materials in excess of the production capabilities of facilities now in being or under way.

RDT&E costs are projected to keep pace with the general development and costs of hardware programs.

^{*} Page B-25

TABLE 12

PROJECTED HARDWARE-ASSOCIATED OUTLAYS FOR FORCE D, 1966-75 a/ (Billion 1963 US Dollars)

	<u> 1966</u>	1967	<u> 1968</u>	1969	<u> 1970</u>	1971	1972	<u> 1973</u>	1974	1975
PROCUREMENT										
Land Armaments <u>b</u> / Ammunition General Purpose Ve-	0.14 0.12	0.17	0.18 0.13	0.19 0.14	0.20 0.14	0.21	0.24 0.16	0.24 0.17	0.28 0.18	0.28 0.18
hicles Naval Ships Aircraft Missile Systems Other Elec. Eqpt. 2/ Organizational Eqpt. Subtotal	0.06 0.09 0.28 Neg. 0.44 0.06 1.2	0.07 0.13 0.32 0.02 0.40 0.06 1.3	0.08 0.15 0.32 0.04 0.36 0.06 1.3	0.08 0.19 0.38 0.04 0.32 0.06 1.4	0.08 0.25 0.46 0.07 0.29 0.08 1.6	0.10 0.32 0.38 0.10 0.26 0.08 1.6	0.10 0.38 0.51 0.12 0.24 0.08 1.8	0.10 0.40 0.65 0.12 0.21 0.10 2.0	0.10 0.42 0.50 0.11 0.19 0.10	0.10 0.43 0.58 0.07 0.18 0.10
SPARE PARTS Of which for Other	0.49	0.56	0.63	0.69	0.74	<u>0.80</u>	<u>0.88</u>	0.95	1.1	1.1
Electronic Eqpt.	0.22	0.26	0.29	0.32	0.35	0.37	0.40	0.42	0.43	0.44
NUCLEAR PRODUCTION & FACILITIES D	0.10	0.10	0.10	0.10	0.10	0.12	0.14	0.15	0.16	0.18
RDT&E (Including Nuclear)	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.30	0.35	0.40
TOTAL	2.0	2.2	2.3	2.4	2.7	2.8	3.1	3.4	3.4	<u>3.6</u>

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a/ Components may not add to totals shown because of rounding. Neg. used when 0.005 or less.

b/ Includes AAA for air defense.

Same as for Force A. See Table 9, p.B-19. Total electronics production increases somewhat for this Force, however, because of the greater amount of electronics integral to other systems

d/ Excluding RDT&E.